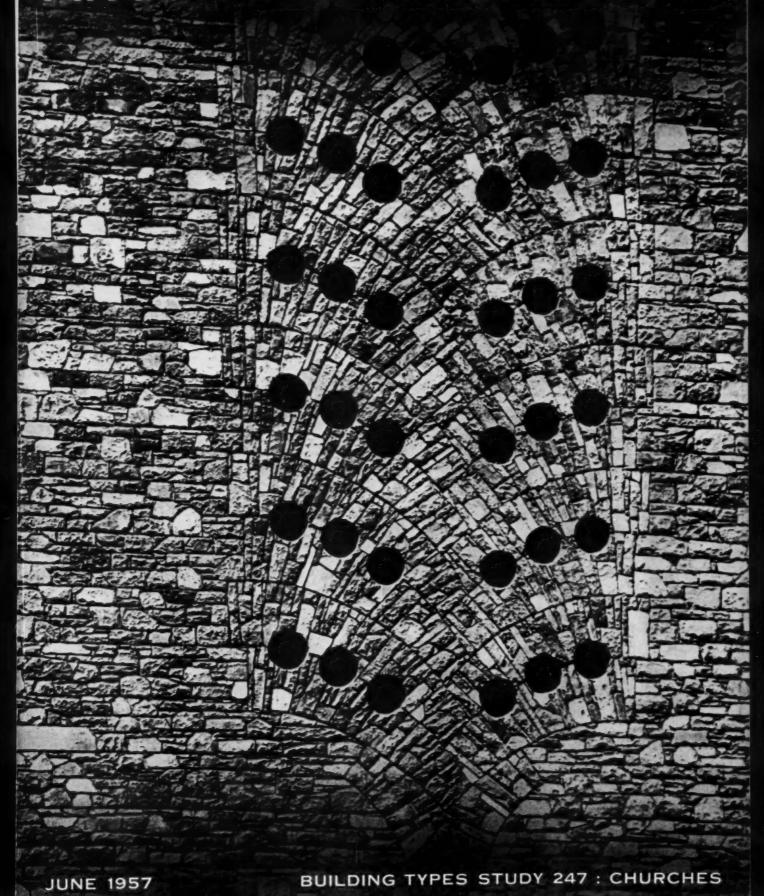
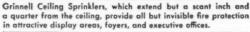
ARCHITECTURAL RECORD



GRINNELL SPRINKLER PROTECTION

in two new units of Jordan Marsh Department Store, Boston, Mass.







Fire poses a constant threat to life and property. In a few moments of time, it can reduce to a tragic, smoldering ash the most modern edifice in the world. That's why so many buildings today include Grinnell Sprinkler Protection.

Reliance more and more on Grinnell Ceiling-Type Sprinklers also is in keeping with the present-day trend. The beauty of Grinnell Ceiling Sprinklers is that they do nothing to mar the decor of attractive interiors. Actually, they can be made to become an inconspicuous part of the architectural planning ... to blend in harmoniously with modern design. But should fire strike, anywhere ... at any time, day or night, they stand ready to stop fire at the very first flame.

Make sure the buildings you are planning include Grinnell Sprinkler Protection. Consult a Grinnell engineer. Let him give you cost figures on the best Grinnell System for you. And remember, Grinnell Sprinklers usually pay for themselves in a few years through reduced insurance premiums. Call or write Grinnell Company, Inc. 269 West Exchange Street, Providence 1, Rhode Island.







Supplementing Grinnell Ceiling Sprinklers at escalator stairwells is a special Grinnell Water Curtain System, which operates to keep smake and hot gases from entering open floor areas.

GRINNELL

PROTECTION AGAINST EVERY FIRE HAZARD

- Manufacturing, Engineering, and Installation of Automatic Sprinklers Since 1878 -



no added cost for SOLAR CONTROL LOUVERS...



Architects: Wm. Henley Deitrick, F.A.I.A. John C. Knight, A.I.A.

Builder: Strong and Harmon

Operating, Maintenance Expense Reduced Annually

More Than 25 Percent!

AIR CONDITIONING equipment cut \$15,000 and a \$2,000 saving on interior blinds made "first costs" exactly even. Important, too, is the "from now on" operating economy. Operating expense of the air conditioning system is reduced by 25% and maintenance of interior blinds eliminated altogether!

GLARE CONTROL is a cost-free benefit for the maximum comfort and improved productivity of workers.

See Sweet's Architectural File, 19e/Le; Industrial File, 7f/Le.

Or write for product Catalog and further data. Sun Angle Charts for your locality also available on request.

LEMLAR SUN LOUVERS



LEMLAR MANUFACTURING COMPANY

P. O. BOX 352-R6

GARDENA, CALIFORNIA

Always

Famous Watrous Tear Drop soap dispenser — features all-metal design with polished chrome finish. Exceptionally durable. Push-in valve meters soap for greatest economy. Has concealed mounting plate. Available in liquid and lather types.

within reach... WATROUS

liquid and lather soap dispensers

. . . The most complete and adaptable line on the market

At the nation's fingertips . . . installed in the best appointed washrooms . . . for almost half a century. That, briefly, illustrates the high regard architects have for Watrous soap dispensing equipment.

For here's the complete and adaptable line that perks up interior planning . . . offers built-in economy and trouble-free performance plus the ultimate in user convenience in scores of buildings. Watrous is a familiar installation in schools, hotels, hospitals, office buildings, department stores, clubs, theaters, air terminals, filling stations and many others. Companions to world-famous Watrous flush valves.

A number of Watrous soap dispensers are shown here — for wall or lavatory mounting. All deliver a measured quantity of soap . . . all are leakproof . . . all are designed with famous Watrous quality features which guarantee corrosion-free service.

Watrous dispensers bring beauty, function and economy into the modern washroom



Push-in-type — Highly popular. Delivers measured quantity of soap. Liquid or lather types with glass or metal containers.



moderate cost, durability and exceptional convenience of operation. Glass or metal containers.



Levatory-mounted concealed centainer — Fills from the topl Harmonizes with latest in lavatory trim, Liquid or lather types, with glass or metal containers.



Post-on stab bracker dispenser — Fits faucet holor special drilling. Easily refilled. Available in liquic or lather types, with glass or metal containers.



Valves for gravity systems

— Attractive horizontal and
push-down models. Clagfree service, Choice of
liquid or lather types.

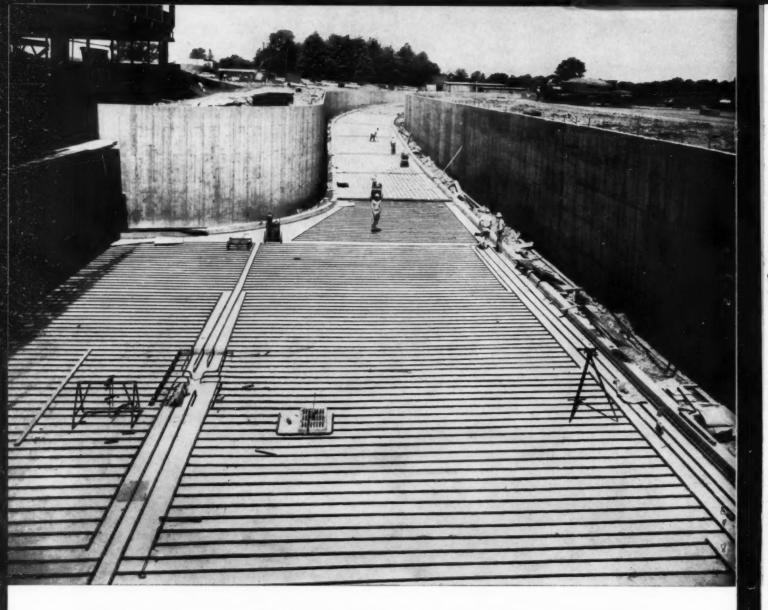


Write for a copy of CATALOG 471 — for complete details on Watrous soap dispensers. Fully illustrated, including installation details,



Products of THE IMPERIAL BRASS MFG. CO.

1240 W. Harrison Street Chicago 7, Illinois



Built-in snow removal called for piping dependability —they used Wrought Iron

Not just snow melting—but dependable snow melting—was the leading design objective for this access ramp.

That's why designers of the new Connecticut General Life Insurance Company office building gave such careful consideration to material selection for this access ramp. Four major factors supported the use of wrought iron for this job: its corrosion-resistance—rugged strength—low coefficient of expansion with concrete—ease of fabrication.

In addition to snow melting service, wrought iron pipe was also installed for well water and cold water lines, chilled water mains, and well water piping in the heating and cooling system. Our booklet, "Byers Wrought Iron for Snow Melting Systems," offers case-history support for wrought iron's reliability in this service. Write for a copy.

A. M. Byers Company, Pittsburgh, Pa. Established 1864. Division Offices in Boston, New York, Philadelphia, Washington, Atlanta, Chicago, St. Louis, Houston, San Francisco. International Division: New York, N.Y.

Available in Canada and throughout the world

Connecticut General Life Insurance Company Office Building: Harfford, Connecticut Architect: Skidmore, Owings & Merrill, New York, N.Y. Engineer: Syska & Hennessy, Inc., New York, N.Y. Contractors: Turner Construction Company, New York, N.Y. (General Contractors) Cobre Pipe and Coll Company, Elmwood, Conn. (Snow Melting) C. H. Cronin, Inc., New York, N.Y. (Plumbing) Kerby Saunders, Inc., New York, N.Y. (Heating and Air Conditioning)

BYERS Wrought Iron Tubular and Hot Rolled Products

· ALSO ELECTRIC FURNACE QUALITY STEEL PRODUCTS

ARCHITECTURAL RECORD

June 1957 Vol. 121 No. 7

Copyright 1957 by F. W. Dodge Corporation, with all rights reserved. Architectural Record (combined with Arerican Architectural Broom (recture) is published monthly, except May 1957 when semi-monthly, by F. W. Dodge Corporation. 10 Ferry Street, Concord, New Hampshire. Editorial and executive offices: 119 West 40th Street, New York 18, New York. Western editorial office, 2877 Shasta Road, Berkeley 8, California.

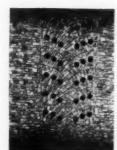
STAFF OF ARCHITECTURAL RECORD

A.I.A., Editor-in-Chief; Marshall T. Ginn, Circulation Manager; Emerson Goble, Managing Editor; Frank G. Lopes, A.I.A., Senior Editor; James S. Hornbeck, A.I.A., Senior Associate Editor; Eliasbeth Kendall Thompson, A.I.A., Senior Associate Editor (Engineering); Florence A. van Wyek, Associate Editor; Eliasbeth Kendall Thompson, A.I.A., Senior Associate Editor (Engineering); Florence A. van Wyek, Associate Editor; Enest Mickel, Dan Street (Washington), John Caulfield Smith, M.R.A.I.C. (Canada), Contributing Editor; Grace M. Anderson, Assistant Editor; Margaret R. Fuerst, Assistant Editor (Engineering Assistant); Helen E. Cook Editorial Assistant (Production); Dianne Thomas, Editorial Assistant; Eugene H. Hawley, Design Director; Thomas L. McArthur, Mary Ann Godfrey, Design; Sigman-Ward, Drafting Consultant; Thomas S. Holden, Industry Relations Consultant; Clyde Shute, Statistical Consultant; George Cline Smith, Economics Consultant; Clifford Dunnels, Jr., Field Research Consultant; Daniel J. Howe, Jr., Public Relations Consultant.

TABLE OF CONTENTS

The Record Reports

Hopeful Start on a Long Journey: A New Century Beckons. A Very Special Observer Writes a Very Special Report on the Centennial Con vention of the American Institute of Architects. By John Ely Burchard 8A Architecture Abroad. Man and Architecture: Brussels World's Fair '58 14 Fuller Group Completes Study for Geodesic "Minni-Earth" 16 Meetings and Miscellany Buildings in the News. Five Buildings Premiated in Western Mountain Awards Program 24 Architectural Students from 15 Nations Join Exhibit 28 A Washington Report. Jets and Airport Design: CAA Looks for Easy 32 Development. By Ernest Mickel News from Canada. By John Caulfield Smith 36 Washington Topics. By Ernest Mickel 48 Construction Cost Index 54 Required Reading 58 Calendar and Office Notes 324 Reviewing the Record 348 Current Trends in Construction 372



COVER: Soction of wall, Church of St. Anna, Annaplatz, Duren; Rudolf Schwarz, Archivez; Arwa Pfan photo

Building Types Study Number 247 — Churches

Church building in postwar Europe can teach us many lessons. In West Germany, G. E. Kidder Smith photographed seven distinguished exam- ples and presents them here along with an analysis of their significance. Seven German Churches	157
"In the Rebirth of a Great Tradition." By G. E. Kidder Smith, A.I.A.	158
Maria Königin, Goethestrasse, Cologne-Marienburg; Dominikus Böhm, Architect	162
St. Michael, Rotlintstrasse, Frankfurt-on-Main; Rudolf Schwarz, Architect	164
St. Elizabeth, Moselweisserstrasse, Coblenz; Dominikus and Gottfried Böhm, Architects	168
Evangelical Church, Bonnerstrasse, Düsseldorf-Benrath; W. Köngeter, Architect	171
St. Anna, Annaplatz, Düren; Rudolf Schwarz, Architect	174
St. Joseph, Braunstrasse, Cologne-Braunsfeld; Rudolf Schwarz and Josef Bernard, Architects	178
St. Mauritius, Glockenwaldstrasse, Saabrücken; Albert Dietz, Architect	180

Continued from page 5

How About a Search for Beauty?

Function, Structure, Symbolism, Monumentality? Are we bouncing back and forth between fragmented objectives, missing the great idea that might tie all together?

This New Shell Game. An article by Albert Bush-Brown

Space in a Small House

In this house the architect has allowed an unusual program to develop an organization of spaces unique in both arrangement and shape. The Frantz-Talcott House, Princeton, N. J.; Kenneth Kassler Associates,

190

185

U. S. Embassy

Accra, Ghana; Harry Weese & Associates, Architects

197

Art, Artists and Architecture

Mosaics by Joseph Young

203

Two Office Buildings

1. Mexico City, Mexico; Juan Sordo Madaleno, Architect 2. Atlanta, Georgia; Alexander & Rothchild, Architects 210

207

Architecture, Atoms and a Peaceful World

Second in a series of articles on the architectural implications in the design of buildings in the nuclear field, prepared with members of the Committee on Nuclear Facilities, A.I.A.

215

"Laboratories for Radioactive Research". By Bernis E. Brazier, A.I.A. and Elisabeth K. Thompson, A.I.A.

216

Radiochemistry Building, University of California Radiation Laboratory, Berkeley, Calif.; Eric Mendelsohn and Michael A. Gallis, Architects 224

¥

Engineering

The Structural Engineer and Architecture; by Felix J. Samuely	227
Air Conditioning for Books and People	231
Technical Roundup	235
Product Reports	237
Literature	238
Time-Saver Standards: Useful Curves and Curved Surfaces - 19, 20	
& 21	241

374

OFFICERS OF THE F. W. DODGE CORPORATION

James McV. Breed, Chairman of the Board; Paul Abbot and Thomas S. Holden: Vice Chairmen of the Board; Howard Barringer, President; Irving W. Hadsell, Chauncey L. Williams: Executive Vice Presidents; Howard M. Thompson, Vice President and Treasurer; Julius T. Little, Robert F. Marshall, T. Oliver Morgan, O. O. Paulsell, H. Judd Payne, George Cline Smith: Vice Presidents; Carl S. Bennett, Clinton C. Bennett, Ralph M. Hairston, Roy J. Hard, Arthur D. Prior, Richard H. Ray, John M. Williams: Regional Vice Presidents; Edwin H. Freed, Assistant Vice President and Comptroller; Walter F. DeSaix, Clifford G. Dunnells, Jr., Gault Eastman, Clyde Shute, Marc Wayne: Assistant Vice Presidents; Sanford D. Stockton, Jr., Secretary; William C. Breed, Jr., George W. Morgan, Jr.: Assistant Secretaries; Irving B. Satin, Assistant Treasurer

OTHER F. W. DODGE SERVICES

Dodge Reports—Dodge Statistical Research Services—Sweet's Catalog Services—Dodge Books—Dodge Mailing Service—The Modern Hospital — The Nation's Schools — College and University Business — Hospital Purchasing File — Chicago Construction News - Daily Pacific Builder - Denver Daily Journal - Real Estate Record & Builders Guide.

Members of Audit Bureau of Circulations and Associated Business Publications. ARCHITECTURAL RECORD is indexed in Art Index. Industrial Arts Index and Engineering

Index to Advertising

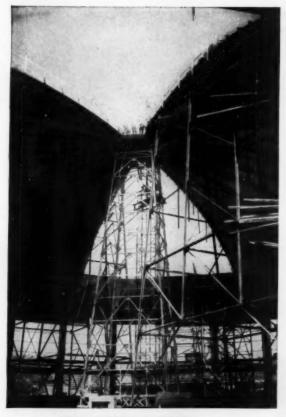
Every effort will be made to return material submitted for possible publication (if accompanied by stamped, addressed envelope), but the editors and the corporation will not be responsible for loss or damage.





Subscription prices: Published monthly except May 1957 when semimonthy, U. S., U. S. Possessions and Canada: \$5.50 per year; other Western Hemisphere countries, Spain, to those who by title are architects and engineers, \$9.00 per year. Single copy price except Mid-May 1957 issue \$2.00; Mid-May 1957 issue \$2.95. Beyond Western Hemisphere, excluding Spain, to those who by title are architects and engineers, \$9.00 per year for 12 monthly issues not including Mid-May 1957 issue. Subscriptions from all others outside U. S., U. S. Possessions and Canada for 12 monthly issues, not including Mid-May issue, \$24.00 per year. Change of address: subscribers are requested to furnish both old and new addresses, sending if possible stencil impression from magazine wrapper; allow four weeks for change.

50% Form Saving



DALLAS MEMORIAL AUDITORIUM Owner: CITY OF DALLAS Architects & Engineers: GEORGE L. DAHL, Dallas Consulting Engineers: AMMANN & WHITNEY, New York General Contractors: R. P. FARNSWORTH & CO., INC., New Orleans

Paving Contractor: TEXAS BITULITHIC CO., Dallas

WITH 'INCOR' IN DALLAS MEMORIAL AUDITORIUM

• Great, new Dallas Memorial Auditorium includes a 10,000-seat arena, an adjacent building with 2,000-seat auditorium and smaller meeting halls, and 100,000 sq. ft. of exhibition space under the two structures.

The main auditorium is a circular, reinforced-concrete structure, 300 ft. in diameter, with dome-shaped roof 90 ft. above 1st floor slab. Roof is carried by arch ribs, which in turn are supported by cantilever ribs extending out 45 ft. from the tops of 70-ft.-high columns.

The roof was concreted in 16 pie-shaped sections, poured in opposing pairs. These sections connect with a concrete plate, 22 ft. in diameter, at dome's top.

In cantilevers and dome, dependable 'Incor' high early strength saved 50% on forms, contributing to economies which resulted in total costs about half those estimated for alternative methods.

These economies were realized by planning with construction methods in mind...utilizing the principle of selective concreting—that is, using 'Incor'* 24-Hour Cement where it shows a net saving through time and form economies, elsewhere Lone Star Cement.

Keep selective concreting in mind—it's a well-proved way of getting more work in place at less cost.

*Reg. U. S. Pat. Off.





LONE STAR LONE STAR LONE STAR LONE STAR LONE STAR CEMENTS COVER THE ENTIRE CONSTRUCTION FIELD

LONE STAR CEMENT

Offices: ABILENE, TEX. • ALBANY, N.Y. • BETHLEHEM, PA.
BIRMINGHAM • BOSTON • CHICAGO • DALLAS • HOUSTON
INDIANAPOLIS • KANSAS CITY, MO. • LAKE CHARLES, LA. • NEW ORLEANS
NEW YORK • NORFOLK • RICHMOND • SEATTLE • WASHINGTON, D. G.

LONE STAR CEMENT, WITH ITS SUBSIDIARIES, IS ONE OF THE WORLD'S LARGEST CEMENT PRODUCERS: 21 MODERN MILLS, 45,100,000 BARRELS ANNUAL CAPACITY

Lima's magnificent new Atlas Building has the World's Finest Plumbing Fixtures

This is the modernistic Atlas Building, in Lima, Peru, S. A., designed by Architect Jose Alvarez Calderon, and built by the Engineering Firm of Florez and Costa. They specified and installed the world's finest plumbing fixtures by Universal-Rundle.

Builders from border-to-border and 'round the world recognize U/R fixture quality and contributions made by Universal-Rundle during 56 years of leadership in the plumbing fixture industry. These include introducing the world's first color-matched fixtures and supplying the whitest white fixtures ever made. U/R fixture surfaces are super-hard...scratch, chip, and stain resistant...lifetime bonded for lifetime service.

A complete line of U/R "New Trend" fixtures is available for commercial and industrial installations, schools, motels, housing developments, educational institutions, and fine homes.

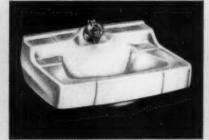
Write for the new Universal-Rundle catalog, or see the U/R section in Sweet's Architectural and Light Construction files, Universal-Rundle Corporation, 487 River Road, New Castle, Pennsylvania.

HIGH STYLED FIXTURES

for home, institutional, commercial and industrial use

New York City's luxurious Sutton House on E. 52nd St. offers the finest accommodations for gracious living . . . U/R fixtures in each of the sparkling bathrooms.





Universal-Rundle's new vitreous china Uni-Dial® Lavatory features one hand control of water flow and temperature with clever, trouble-free "Tilt-Turn" dial.



The Dulavoir, a new one-piece enameled cast iron twin-bowl lavatory by U/R. Installation requires one opening. Available in all U/R colors...and white.

Universal PRundle

MAKER OF THE WORLD'S FINEST PLUMBING FIXTURES



HOPEFUL START ON A LONG JOURNEY: A NEW CENTURY BECKONS

BY JOHN ELY BURCHARD

A Very Special Observer Writes a Very Special Report on the Centennial Convention of the American Institute of Architects

What a party it was, this 120-hour Centennial Birthday. At such an affair many messages are sent your way. You receive those to which you are tuned. This is a very personal account of some of the messages that got through to me.

The party had everything. There was evensong in the National Cathedral. There were aerial tours over Washington in planes too fast for the purpose. Red-coated Marines played music amidst the palms of the National Gallery and there was a concert by the National Symphony Orchestra. There were boat trips, and banquets, and orations, and citations, and unfinished motion pictures and lots and lots of speeches.

There were presents to the A.I.A. on its birthday. The Danish architects presented their Gold Medal; the Japanese, a carved replica of three ancient Noh masks; there were books, old and new; and a fine moment when Jerry Hryniewiecki, president of the Association of Polish Architects, tied an ancient and colorful Polish sash around the middle of Leon Chatelain.

There was humor, quite a lot of it. Most symptomatic perhaps was that provided by Gilbert Chesterton as quoted by Edward Weeks in the keynote, "Sleeping under a hedge is not a new form of architecture."

Some important guests were missing. The only evidence of Walter Gropius was the picture of his fine design for the State Department in Athens. Mies was present only vicariously too. He had a building in Gutheim's exhibition; he appeared in the film by Time Inc. But the man who should most have been there and was not was Frank Lloyd Wright.

His shadow was everywhere. Four of his buildings were in the exhibition. Ralph Walker inserted a toast to him in his banquet address (along, however, with Maybeck, Dudok and Stein). Louis Skidmore predicted in an interview that the future would not find so many opportunities for "maverick geniuses." The Danes awarded Wright a Gold Medal in New York in the morning and another to the A.I.A. in Washington the same evening. At the second Centennial if only one American architect of our times is remembered it will be Frank Lloyd Wright. He was not at the first.

The foreign contingent was larger than usual and more interesting. Mr. A. G. Mordvinov from the USSR was solemn, uncommunicative, cautious, correct and dull. Mr. Hryniewiecki from Poland spoke English volubly, was open and gay. Our friends from Western Europe and Latin America seemed somehow less exotic now.

The top guests were all present, of course. The three charm-

ing young men from Spain, Senors Cesar Ortiz-Echague, Manuel Barbero Rebolledo, and Raphael de la Joya, survived the consistent and ineffable mispronunciation of their names by President Chatelain. They gracefully received the \$25,000 honorarium for the first R. S. Reynolds Memorial Award and promised to spend it all in a hurry in the United States.

Top guest was Ralph Walker, recipient of the unique Centennial Medal. No one can do justice to Ralph in a few lines. The Institute surely planned nothing symbolic in awarding the Gold Medal to Skidmore, who epitomizes the well-run team and perhaps the wave of the future, and the Centennial Medal to Ralph, who symbolizes the extroverted individual and perhaps King Canute. The most important question underrunning the entire affair was to be found epitomized in the lives of these two men.

There are many reasons why Ralph deserved the highest award from that society of which he has been so brilliant and outstanding a leader. He does not have a neutral personality and few people are neutral about him. But even those who dislike him could not in the end, I think, have felt that a distinguished award was undeserved. Many may have wished that there might have been a second award for quite different purposes and to be given to the man who was not there. I wished that.

Ralph's acceptance of the award was completely in character. He chose the work of his to be shown and its nature revealed a romantic side of him that many do not know. He had his acceptance address elegantly printed complete with personal hallmark. The address itself was in characteristic prose even to the French title, "Sans dogme, sans monotonie."

I'vek. Here are some I received.

There was little concern with history or the suggestion that we might learn anything from it. The exhibition was, of course, mostly historical but even then it placed its emphasis on prophecy. Mr. Weeks, the keynoter, did refer to his bookreading youth when there had been spaciousness and time and people would read long articles. If Mr. Weeks was right and people would no longer read more than a few words at a time, I could not help wondering whether they will spend many minutes looking at any work of art, including architecture. Does this mean that the work of art must express all in what can be comprehended in a first glance? Can an essay in *Truth*

THE RECORD REPORTS

be written in 1500 words? A sobering thought. Perhaps Mr. Weeks is not wholly right. I hope not.

But, save for occasional such reminiscences, history was rejected. Pietro Belluschi said of the previous century that, like man's adolescence, it had been but a period of preparation. Carl Feiss called it the "hundred primitive years." Sans nostalgie, sans larmes.

This meant also that almost nothing was heard in Washington that would have lifted the heart of Henry Hope Reed and his wistful cohorts in their effort to get us back into the Villard House. A reporter for a tabloid did pick up Reed's predictions and essayed some interviewing around the hotels. This was pretty unproductive of hope for Reed. The regular speakers were even less so. None of the exhibitions of contemporary material showed any ground-swell for neo-Georgian. Henry Luce summed it up by saying, "The 20th century Revolution of Architecture has been accomplished."

The gala opening of Frederick Gutheim's exhibition, One Hundred Years of Architecture in America, drew 6000 people through a violent thundershower. The first to arrive was the Russian Ambassador, Mr. Georgi Zaroubin. I was hard upon his heels. Mr. Zaroubin declined to comment. I cannot decline.

The truth is that this exhibition had many admirable qualities and it is not quite fair to criticise it save at length. But it is not fair either to ignore it. The trouble is that it is too personal for an official Centennial show which it is said is even going to be sent abroad. Mr. Gutheim needed protection against his personal whimsies and his determination to be different and he did not get it. The theme was not clear; we did not see the best 65 buildings of the last 100 years, nor the most representative always. We saw no "anonymous" architecture. Minor people were included to the absolute exclusion of such giants as Burnham, Root, Gropius, Neutra, Belluschi, Breuer, to name but a few. Obvious buildings by others were often left out in favor of less obvious and actually less representative works and this was true for Upjohn, Sullivan, McKim, Eliel Saarinen and even Richardson. The underestimate of the effect of Mies van der Rohe was doctrinaire and unfair as was the overestimate of Maybeck, Green and Gill. I say nothing of the un-Polkian Hallidie Building. Worst, perhaps, the show did not begin to suggest the effect of Frank Lloyd Wright over the last half century. Each of these strictures is arguable and can be countered. But that is the way it looked to me.

The great transparencies promised much but had their disappointments too. The photographer W. Eugene Smith did well to include people in most of the pictures but he fell for the old notion that a building can be divorced from its surroundings and the newer one that the way to show a building is to pick a detail that most resembles a Mondrian painting.

PERHAPS the main messages of the party were in the various exhibitions, but there were a lot of words and many of them were winged. There was a serious effort to come to grips with five problems through panel statements on the new world of technology and ideas, on environment and the individual, on the arts in modern society, on the future of the city and on the new world of economics. Many of the panelists wandered off the subject or even made political speeches; some of the subjects, and in my view the most important ones, were recurrent in other panels and a systematic replay does not seem rewarding.

For example, the problem of the arts in modern society got sidetracked into a discussion of government and the arts which might much better have been devoted to the more critical issue of the relation of the arts to architecture today. Probably the most important symptom of this panel was that even in planning a great forward look the architects did not think it worthwhile to summon distinguished contemporary painters and sculptors to say what they thought of the present relation between architecture and its allied arts. It would have a different cast of course. As to the question before the house, it came down to a discussion of the perennial worry by the American citizen about his relations to his government. Miss Lillian Gish, the actress, wanted a Cabinet Officer for the Arts and wanted it very much. Dr. Howard Mitchell, the conductor, was the most analytical and ended up by wanting to be cautious about the whole idea. Mr. Friedlander, the sculptor, was enthusiastically negative, principally, I gather, because he thought the decisions would be made by people who were not sympathetic to the work of "rational contemporaries." I can only assume that Mr. Friedlander is a rational contemporary.'

The session on The New World of Economics also wandered around. Charles Luckman, the moderator, said that an economist was a man who was often wrong but never in doubt. Dr. Schmidt from the Chamber of Commerce of the United States made statements which would not surprise anyone who knows that body, and Walter Reuther cried that it was neither economics nor technological ineptitudes which kept America from being all she should be, but rather our moral attitudes. This session closed with some interesting tariff proposals by the businessman James Ashley, who on most matters seemed much closer to the labor leader than to the economist from the Chamber of Commerce.

The other three panels on technology, environment and the individual and the city provided common themes and the most important questions and I will try to put these altogether after speaking of a few other significant matters.

It will be realized that all this talk was in strange contrast to the subject matter of early meetings of the A.I.A. as reported in Henry Saylor's "The A.I.A.'s First Hundred Years." Richard Upjohn, for example, spent an early meeting expressing the opinion that "the introduction of color in exteriors is a matter of questionable taste, as weakening the force of the design of the building, particularly in our climate."

This convention did not spend much time on esthetics. In his acceptance address, Ralph Walker got in a few licks. "We will want once more to recognize the poetry of magnificent rhythms, for whenever in the turmoil of a material civilisation the voice of the poet becomes the singing commercial, rather than the epic, whenever the painter willfully drips paint instead of depicting the godlike—the speed of the approaching folly is rapid indeed. . . . While the bloody job of stripping a tiresome distinction from the past was necessary, we cannot always face a future in which we, doglike, constantly pick at the dry bones of structure. . . While I have little hope that I may live to see them realized, I would in closing, salute those of you now living and those yet unborn who will work to achieve our dreams; our dreams which we, as architects, should ever enclose in lasting beauty." Eloquent and characteristic.

But I found equally characteristic and more eloquent and pointed the simple sentences of Belluschi's perorative speech. "The dismal aspect of our cities and suburbs . . . will not be relieved by the cosmetic approach of applied beauty . . . but rather by a greater awareness on the part of all of us of the meaning of the forces which motivate our society and the understanding the average person has of the role that total environment plays in his life. . . . Beauty is not a static quality."

r was significant too to America that the international note was so insistent. I do not refer to the obvious fact that there were foreign delegates. But the note was everywhere. It was in the exhibition of the brilliant jobs done for our State Department, by Weese for Ghana, Stone for New Delhi, Gropius for Athens and the contrast with the abject Federal work at home. It was evident in Time's film with quotations from so many American architectural leaders free from the suspicion of any American or even English accent. There were the displays, demonstrating again and again how much our architectural debt is to Spain, Finland, France, Germany, Italy, Japan. One of the most interesting awards was to the American citizen, Antonin Raymond, born in Czechoslovakia, for buildings built in Japan. Robin Boyd of Australia was quite right to tell the press that there might not be any such thing as an "American" architecture, even though he was unfortunate enough to be misunderstood as saying there was no good American architecture, quite a different observation. Mies was right to say in the film that he doubted there would be a specifically American architecture, that architecture was "supranational." It has always been so in history, for science as well as for architecture. The desideratum is not, as I thought Mr. Luce was doing, to claim too much for America: to assert that the 20th century revolution in architecture "has been accomplished mainly in America - no matter how great our debt to European genius": but rather to walk more softly, to play our part as well as we may, as part of a greater world drama. Most of the visual evidence of the convention supported that view. We were doing pretty well about individual buildings although we heard over and over again that our cities were getting uglier, hour by hour.

I LIKED, too, the way American democracy could be seen in action. There were sensible resolutions urging that the National Capital be rebuilt slowly over fifty years, that the East Front of the Capitol be left unchanged, that the Jefferson National Expansion Memorial in St. Louis be completed. The biggest test came on another issue.

Mrs. Agnes Meyer, one of our greatest liberals and leaders of good causes, addressed the Convention on the question of a National Cultural Center with which it was entirely sympathetic. She has worked unselfishly for years on this project, has been helped by eight well-known architectural firms nationally distributed, and has got things well along, although all the political hurdles have not yet been jumped. She has a good chance of getting the last fine piece of land in monumental Washington, in Foggy Bottom, near the Lincoln Memorial. Now she wanted the support of the Convention and also to tell them that the Commission was going to hire the eight firms to design the final building, "the most important building in America." This was in the face of a resolution a year ago that this building should be the subject of a competition.

The subsequent debate touched on most of the issues of contemporary architecture. Should there be a national competition in a matter of this sort? Will it produce the finest building? Can any eight firms together do so well as any one would alone? Why do we so like to make these elephantine marriages of architectural firms these days? The convention ended by endorsing the project and commending the architects for their preliminary services and resolving again that there should be a competition.

During this debate too there was a great deal of reference to Pericles. Mrs. Meyer seemed to me to show she was not quite a Pericles when she said, "The architecture of this complex of buildings, if it is to express not temporary but enduring values, must be modern and yet classical. It must avoid eccentricities. It should not be so modernistic that it has no relationship to the past, for then, it could have no relationship to the future." I felt that for all her great citizenship, Mrs. Meyer did not understand the relationship between client and architect or how great architecture is attained. That was the moment when I dozed off.

I fancied I heard Pericles saying, "We are right, Athenians, to desire to build this great Center of the Arts in our great city for we have always been venturesome and ingenious and tasteful. We are right to desire that it shall be a fine example of our craft and be as enduring as the Gods shall deem it right. . . . It has seemed much better to me to bring together a committee of architects of undoubted respectability but of widely differing talents and tastes so that everything controversial may be cancelled out. Thus we will get a temple to Athena which no one will be able to criticize. No one will dislike it very much and that is perhaps more important than that some should love it. It is perhaps the inevitable consequence for architecture which the people of a democracy must pay for either with their hard budgeted taxes or with the pitlance left to them to give after the taxes have been extracted."

I woke to remember that I was still in Washington, D. C.

THE SUBJECT of this dream was on many people's minds during the convention as it is also on many non-architectural American minds these days. It can be summed up by asking whether the individual can any longer weigh anything or be creative or productive save as a member of a group. Behind the recognition that he must often group with others to accomplish anything large, rested the individual's fear that in becoming a member of a committee, he would end by being a conformist, by becoming "patternized," as Tillich put it, and thus personally frustrated and unable to make his greatest contribution to a society which still needed originality while doing so much to suppress it.

But it was surely the technological questions which paved the way for most concern. Not very much was said about atomic power and bombs, about automation and mass communications, about brainwashing or interplanetary travel. On the whole it seemed to be taken for granted that this kind of change could not be stopped and that no one should try. The problem was not to be bemused by it or afraid of it, not to identify it with progress, but to do the best one could to understand it and to use it for the benefit and not the harm of man, so that progress might then ensue.

Population increases did come in for a good deal of attention. Dr. George Kimble, geographer, indicated that we would have seven billion people on the globe in 2057 as opposed to two and one half billions now. This meant to him that land would be very scarce. Worse than that everybody would be trying to use copper and iron and other things at the present American rate and this meant that everything would be running out. His solution was austerity, self-imposed before it was too late. Hardly anybody else shared the pessimism of this neo-Malthusian.

More people were concerned with other problems of population pressure and its urban distribution. Millicent McIntosh expressed the modern paradox that even with our present "unprecedented opportunity and privilege . . . we are faced as human beings with human problems that seem impossible to solve." High among these problems, it seemed to Dr. Paul Tillich, was the problem of environment. There was no such thing as total environment, he asserted. The environment was selected by each man from the whole and thus environment was by no means synonymous with surroundings. This was an important cud for architects to chew on. We all found the modern environment very ugly. Maybe others do not. Are we being too selective of the ugly?

Tillich emphasized, as Weeks, Belluschi, and McIntosh also did, that there is still an urgent need for privacy in our lives and that contemporary architecture ought to be more thoughtful about this.

One of the great mechanical destroyers of privacy was found to be the automobile. Everybody was sorry about it but no one proposed abolishing it, or even making it smaller. Belluschi told us there were 70 million now and would soon be 100 million, "using up and demanding enormous amounts of land, killing, maiming and patronizing the pedestrians, riding high over our communities, bringing congestion and blight." Weeks did not like the idea of sitting in the picture window watching all the cars go by. "Sleeping by a thruway is not the most desirable form of American architecture.' It remained for Carl Feiss to draw the most powerful picture. "Without adequate overall planning, without prevision of the social consequences as well as the physical, we are blasting through the cities great Panama Canals for the next 100 million automotive vehicles. . . . Whatever Autopia will turn out to be it will not be a city of the past. Whatever it will be in the future, it ought to be planned and designed for man and man's places, and not just for machines."

These populations and these machines conspired to make the city which was also regularly anathemized but never written off. Pietro Belluschi guessed that there would be 340 million Americans in the next hundred years and most of them in cities. Yet except for Bennett Cerf, who thought everything in America was fine right now, everybody wanted the city to be different than it was getting to be. And John Knox Shear reminded his audience that "in the century that has commenced this week for the architects of America, the city must be their initial and essential and ultimate concern."

I have myself been as loud as the next man in the purple prose I have provided against the city and I know much of it is true; but I wonder if the song was not a little vehement in Washington. There were gloomy forecasts of "urban sprawl" extending from Maine to California as it now does from Los Angeles to San Diego but I remember an extensive list of oases in the sprawl. Carl Feiss warned us that we must avoid pollution of land as assiduously as we avoid pollution of water and air. Belluschi spoke of the derby hat and all the other architectural "cuties" that devastate our landscape, and Henry Luce was all too right to remark that the American people had not had all this forced upon them, "they chose it." Feiss again drew the most dramatic indictment: "The relentless tide of undesign has washed over us, swirled around us, and spread the long streamers of road-town into the virgin fields, miles out from here." Then he made an important reiteration of what Lewis Mumford had said in different words many years ago in Sticks and Stones. "Comprehensive architecture is the new imperative."

ALL THIS thinking of the whole city was, of course, correct; but it raised two types of questions. First, were architects inevitably static minded and if so would the century put them out of date? Bronk may have said something more prescient than any one else, something quite disturbing to makers of cities had they stopped to ponder it. "I foresee an ever greater mobility for man. What will be the consequence of this, no man can say. . . . If I were an architect, I would think that man would be so mobile that he would have quite different needs, for houses in which he would choose to live for but a time . . ." And while most were more willing to think of the static and the better city and to concern themselves with questions of who should make it, John Shear asked: "Is it of great import WHO is to take the credit as long as the community's interests are well-served? Does there

exist, really, an expert on the total city; does there exist an expert on the living of life?" And "Is it not true that many must care if many are to profit; and that it is the continuing concern of the few to induce the many to care?"

The problem of who was to do it brought us squarely back to the question of the individual and the government, the individual and the committee, and for the last time. Charles Eames remarked as he received his medal for craftsmanship that he had just got in under the wire, since the time was drawing nigh when "anonymity is not going to be a dirty word." Ralph Walker hoped that the next Centennial medalist might still be regarded as "an architect, a philosopher, and a humanitarian, but more important that he be thought of as an individual." Belluschi was most realistic: "We may remember that while men of genius and a great variety of approaches by gifted individuals are needed to stimulate us, the great body of buildings forming our cities and the very structure of our new communities will be produced by earnest, intelligent painstaking realists who by their day-to-day effort, by their ability and willingness to be part of a team and to accept the realities of life, will succeed in making their influence felt in the communal process of giving form to a healthier, happier and wiser society."

So the battle raged but the trend was towards collaboration. Carl Feiss again was powerful: Buildings "have been the highly personal, frequently egocentric, often beautiful expressions of great men acting as individuals, creating as individuals, and building individual monuments to their genius and the genius of their extraordinary times." But these are only islands, "isolated footholds in a swamp."

That the collaboration was needed seemed generally agreed. How it could be achieved without "patternization" seemed less certain. Paul Tillich, depressed by Long Island housing, thought it a disturbing symbol of loneliness in a crowd, breeding as well as confirming the "patternization" of present day industrial society. He thought it might be impossible to break this up from outside but that it might and almost certainly would be broken up from within.

"Symbols of non-conformism will always appear in the midst of surroundings which try to compel adjustment to models and patterns. We are made by our environment and we make it at the same time. . . . Symbols cannot be produced intentionally. They are born and grow and die. But one can tell how they are conceived and born: out of the personal passion of individuals who in total honesty and total seriousness penetrate into the demands of the material with which they work, who have a vision of the form which is adequate to their aim, and who know that in the depth of every material, every form and every aim something ultimate is hidden which becomes manifest in the style of a building, of a poem, of a philosophy."

This brings us back to the beginning and to Weeks' quotation from Churchill. "We shape our buildings and afterwards our buildings shape us." Would there be some magnificent "no-sayers" in the years to come? Would we shape better buildings in larger groupings? Would our cities survive and even be better in every way? Would the individual survive? No one was really pessimistic. Almost everyone, after he was through scolding or peering apprehensively, turned out to be an optimist. Americans, it was clear at the beginning of the second century of the American Institute of Architects, were still primarily Transcendentalists. So, most of the time, I guess, am I. But let me remind you as I said in the beginning that people hear the messages they want to hear.

It may as well end with the phrase Detlev Bronk quoted from Robert Louis Stevenson, "to travel hopefully is a better thing than to arrive." It was a hopeful five-days journey.

A NEW CENTURY BECKONS:

Centennial Sessions Search for Context In a Memorable Series of Seminars



Keynoter: Edward A. Weeks, Jr.



Closing speaker: Pietro Belluschi

Photos on pages 9–12 by Hugo Brook and foourtesy A.I.A.I Cameramen, Inc.



THE NEW WORLD OF TECHNOLOGY and the New World of Ideas were subjects of the first general session of the convention, with Nathaniel A. Owings (right above) as moderator. Speakers: Dr. Detlev W. Bronk (left), president of the National Academy of Sciences, on technology, and Paul G. Hoffman (center), U. S. Representative to the U.N. General Assembly, on ideas



ENVIRONMENT AND THE INDIVIDUAL occupied the session moderated by Dean John E. Burchard of M.I.T.'s School of Social Studies and Humanities, shown at right with (left to right) speakers George T. Kimble, geographer; Dr. Millicent C. McIntosh, Barnard president, and Dr. Paul Tillich, theologian and University Professor at Harvard



THE ARTS IN MODERN SOCIETY—Bennett Cerf, Random House publisher, made the major address on this subject at session moderated by John Dettie. Above: Mr. Dettie, and three panel speakers on Government and the Arts—Dr. Howard Mitchell, conductor of the National Symphony Orchestra; Miss Lillian Gish, actress; and sculptor Leo Friedlander



THE FUTURE OF THE CITY — Moderator John Know Shear, editor-in-chief of Architectural Record, with speakers Philip M. Talbott, U. S. Chamber of Commerce president; A.I.A. President Leon Chatelain Jr.; Senator Joseph Clark; and Carl Feiss

THE NEW WORLD OF ECONOMICS — James Ashley, Libbey-Owens-Ford public relations director, Dr. Emerson P. Schmidt, U. S. C. of C., moderator Charles Luckman, and Walter Reuther, AFL-CIO



THE RECORD REPORTS

A NEW CENTURY BECKONS:

4300 Celebrate Its Beginning at A.I.A.'s Biggest and Most Festive Convention



LOUIS SKIDMORE receives the 1957 Gold Medal, A.I.A.'s traditional "highest honor," from President Chatelain



RALPH WALKER receives scroll for his Centennial Medal of Honor recognizing "the brilliance of his contribution"



CELEBRANTS — Californians John Carl Warnecke, Kenneth Reid, Mrs. Ernest Kump, and John Worsley. . . . Harvard's



Dean José Sert and Mrs. Sert. . . . Bernard Rothschild of Atlanta and William Stanley Parker of Boston. . . . James Follin



of Washington with Earl Heitschmidt of Los Angeles. . . . A.I.A. gets gift from Gumpoi Matsuda, Japan Architects Association



Fritz Gutheim with John Shear. . . . Wallace Bonsall, Pasadena; Mrs. Walter Taylor; Detroit's Clair Ditchy; Mr. Taylor,



A.I.A. education and research director; and George Lindeberg, Pasadena.... James Britten, Greenfield, Mass., and the



new dean at Florida, Turpin Bannister.
. . . Host Chapter members Arthur Keyes
and Don Lethbridge with Antonin Raymond

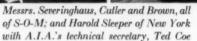


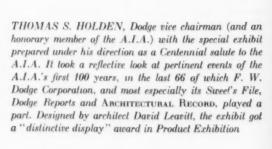
A.I.A. Executive Director Edmund Purves with Host Chapter Chairman Frank Duane. . . . Clarence Stein of New York with



Robert Fischer of Architectural Record. ... Mrs. William Brown, Mrs. Robert Cutler, Mrs. Walter Severinghaus and











CHARLES EAMES receives the Craftsmanship Medal. Fine Arts Medal went (in absentia) to painter Mark Tobey

R. S. REYNOLDS JR. presenting first annual R. S. Reynolds Award to three delighted young Spanish architects

SKIDMORE, OWINGS & MERRILL - Louis Skidmore (center) with Nathaniel A. Owings (left) and John O. Merrill (right)







U.S.S.R.'s A. G. Modvinov with U.S. A.'s Ralph Walker: both vice presidents of Union Internationale des Architectes. . . . Mr. and Mrs. Norman Schlossman of Chicago

with (at left) Chlooethiel Smith of Washington, D. C. . . . Publishing Director Judd Payne of Architectural Record with California's Donald Beach Kirby and

Paul Hoffman. . . . Dean John Burchard of M.I.T. with the three Weese brothers, architects all - Ben, just finishing at Harrard: Harry: and John



Canadian guests Douglas Kertland, R.A.I.C. president, and C. J. G. Carroll, secretary, with English visitors Kenneth



Cross, president, and C. D. Spragg, secretary, R.I.B.A. . . . New Yorkers Mr. and Mrs. B. Sumner Gruzen and Mr. and Mrs.



Benjamin Smiin. . . . Little Rock's Howard Eichenbaum, H. Griffith Edwards of Atlanta, Tom Brood, Dallas, Bob Elkington, St. Louis



George B. Allison, L. A.; First VP John Richards, Toledo; Mrs. Ulysses Rible, William G. Balch and Mr. Rible (new



director), all L.A.; Walter A. Domann, Milwaukee. . . . James Hammond of (S-O-M), Chicago and New Yorkers Fred-



erick G. Frost Jr., Perry Coke Smith and Miss Elizabeth Coil. . . . S-O-M's Gordon Bunshaft and Walter Severinghaus



New Yorkers Frank Voorhees, Lorimer Rich and Chester Price. . . . Prof. Walter Bogner of Harrard and Mrs. John Knox Shear. . . . Edwin B. Morris Jr., Assist-



ant to the Executive Director (mainly responsible, under Mr. Purves' direction, for developing the Centennial Convention program) and William Lescaze of New York.





. . Mrs. Raymond J. Ashton, Salt Lake City, Mrs. Edgar Williams of New York, A.I.A. Past President Mr. Ashton and Kenneth K. Stowell of New York

THE RECORD REPORTS

A NEW CENTURY BECKONS:

The Mood of the Welcome Is Gala -National Gallery to Constitution Hall, Shoreham to Sheraton Park



At the President's Reception opening the "One Hundred Years of American Architecture" exhibit at the National Gallery -Director Donald J. Stewart of Portland,



and Mrs. Stewart. . . . Exhibition Director Frederick Gutheim and Mrs. Gutheim; Alexander Cochran of Baltimore, exhibit committee chairman, and Mrs. Cochran



Regional Director Ulysses Rible and Cornelius Deasy, Los Angeles; President Chatelain; and William Stephen Allen Jr. of



San Francisco. . . . Frank Lopez of AR, Mr. and Mrs. Robert Cutler, and Louis Skidmore. . . . Philadelphians Henry Churchill,



Newcomb Montgomery and Morris Milgrien. . . . David C. Baer of Houston, who received this year's Kemper Award, and Don B. Kirby



Carl Warnecke of Oakland with John Shear



. . . Mr. and Mrs. Julian Clarence Levi and Jeffrey Ellis Aronin of New York. . . . J. Winfield Rankin, A.I.A. Adminis-



trative Secretary and one of this year's new honorary members; George F. Pierce Jr. of Houston; and A.I.A. Secretary Edward L. Wilson, Fort Worth. . . . Charles F. Cel-



larius, Cincinnati; Mrs. Raymond J. Ashton, Salt Lake City; Mrs. Cellarius; Mrs. Edgar Williams and Mr. Williams of New



S-O-M-'s Robert Cutler with Ralph Walker and Philip Skidmore (son of Louis Skidmore). . . . Another gift from abroad, pre-



sented by Flemming Grut, president of Danish Architects. . . . James Hornbeck of AR, Louis Redstone and Kenneth Black of



Detroit, and Gumpoi Matsuda of Japan. . . . Frederick J. Woodbridge and Mr. and Mrs. Aaron Kiff of New York



Alexander C. Robinson III of Cleveland, A.I.A. Centennial Committee chairman (right in photo at left), with Mrs. Robinson and W. B. Potter of Eastman Kodak at exhibit. . . . Trying out a pillar at Constitution Hall - G. E. Kidder-Smith and Bancel LaFarge of New York, Carl Feiss of Washington and (foreground) the amiable Polish visitor, Jerzy Hryniewiecki



FOR SUMMER COMFORT,

the U. S. National Bureau of Standards rates multiple layers of aluminum FIRST

among all insulations it tested, as reported in its booklet,
"Effect of Ceiling Insulation upon Summer Comfort," BMS52.

(You can get it at our expense.)

To be comfortable in summer you must ward off unwanted heat rays or radiation. Most heat flow thru a roof space in summer is by radiation. There is no convection down, and little conduction thru low density air.

Temperatures can reach over 140° F. in some attics. With an absorptivity for heat rays of only 3%, reflectivity 97%, and emissivity 3%, scientific multiple aluminum is an effective shield against summer heat. The slight mass of its components, air being preponderant, makes it very low in heat storage.

COST OF AIR-CONDITIONING REDUCED

This shield against radiant heat lifts part of the load from house-cooling equipment, reducing installation and up-keep costs. But the building which is *not* artificially cooled, needs this shield even more!

Multiple aluminum is also markedly effective against radiation through a wall space.

Air of higher outside temperatures will support more vapor than the cooler air inside a building. Often vapor flows from the outside to the inside of the house, obedient to the law of physics that vapor travels from areas of greater density to areas of less vapor density.

Multiple aluminum has long, continuous metallic sheets on both sides which are almost impervious to water vapor. Infiltration under the flat, stapled flanges is slight. The scientific construction of multiple layers of aluminum, fiber and air spaces, minimizes condensation formation on or within this type of insulation. Timber rot, crumbling plaster, peeling paint, etc. are minimized.

CAUTION: We do not recommend placing vapor barriers on both sides of all insulations.

IN WINTER, NEED FOR INFRA EVEN GREATER

The low conductivity, the slight heat ray absorptivity and emissivity of scientific multiple aluminum, and the retarding of inner and outer convection by the multiple layers of metal and fiber, amazingly effective in summer, assume paramount importance in winter when this 3-fold bar to outward heat flow cuts fuel bills and increases comfort.

To obtain MAXIMUM, uniform-depth protection against heat loss and condensation formation, it is necessary to use the new edge-to-edge multiple aluminum, each sheet of which stretches from joist to joist.

THERMAL VALUES Infra Type 4 Parallel Insulation

Down-Heat C .042*=7%" non-metallic insulation to Up-Heat C .105*=3%" non-metallic insulation Wall-Heat C .068*=4%" non-metallic insulation to C .068*=4%" non-metallic insulat

Cost installed between wood joists, material and labor, about 8¢ sq. ft.

Type 6 also available

Can be purchased everywhere through your preferred local dealer.

*Determined by method of National Bureau of Standards in H.H.F.A. Research Paper 32. †Calculated on basis of limiting thermal values cited in Fed. Specs. LLL-f-321b; HH-I-585; HH-I-521c; HH-I-551a.



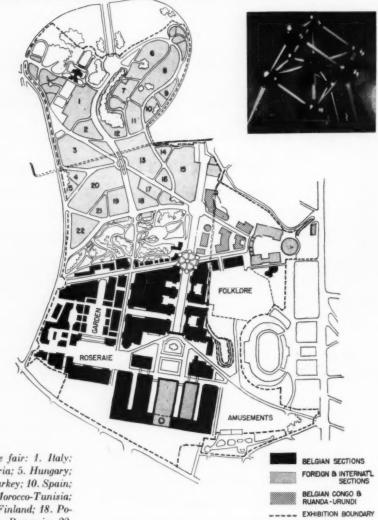
THE RECORD REPORTS ARCHITECTURE ABROAD

MAN AND ARCHITECTURE: BRUSSELS WORLD'S FAIR '58

Brussels will be the scene of the first major international exposition since the New York World's Fair of 1939 when it opens its Universal and International Exhibition April 17, 1958. Centered around a theme of humanism, the fair will have exhibits from 50 participating nations, seven "supranational" organizations (e.g., the United Nations, Benelux, the International Red Cross) and the Belgian Congo, as well as international science and art exhibits.

Among the buildings currently under construction on the 500-acre site at Heysel Park: the Atomium (top of the page), the "theme structure" of the fair (A. and J. Polak, architect, and A. Waterkeyn and A. Becker, engineers); the French pavilion (1—G. Gilbert, architect); the British pavilion (2—Howard Lobb and Partners, architects); the Soviet pavilion (3—Alexandre Boretski, Urii Abramov, Victor Doubov and Antoli Polanski, architects) and the Canadian pavilion (4—Charles Greenberg, architect). The U. S. pavilion, de-(Continued on page 316)

Plot assignments in the foreign section at the fair: 1. Italy; 2. The Vatican; 3. the United States; 4. Bulgaria; 5. Hungary; 6. Germany; 7. Portugal; 8. Great Britain; 9. Turkey; 10. Spain; 11. Switzerland; 12. Greece; 13. France; 14. Morocco-Tunisia; 15. the Netherlands; 16. Austria; 17. Norway-Finland; 18. Poland; 19. Canada; 20. the Soviet Union; 21. Rumania; 22. Czechoslovakia



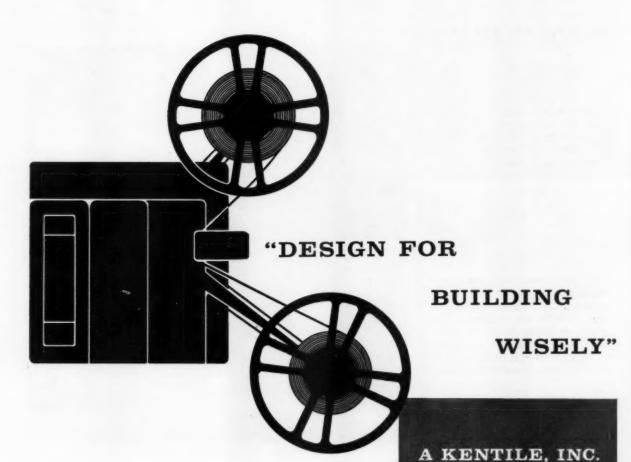








(More news on page 16)



To help increase public knowledge of architectural services, Kentile, Inc. has produced a full-color, educational film, "Design for Building Wisely."

This 5-minute, non-commercial film was supervised by the American Institute of Architects, approved by the National Congress of Parents and Teachers, and the National Federation of Women's Clubs. It shows the help an architect can give a prospective homeowner from initial planning to final construction.

Currently, the film is being distributed to TV stations for use on their Women's Home, Interior Decorator and Farm shows. The A. I. A. is also arranging with local chapters to show the film to their members.

If you, or any group in your area, would like to show this film, prints may be obtained at no cost by writing to Kentile, Inc., 58 Second Ave., Brooklyn 15, N. Y. THE ARCHITECT

FILM TO

BROADEN PUBLIC

AWARENESS

OF THE

SERVICES OF

A SERVICE TO ARCHITECTS FROM

KENTILE FLOORS

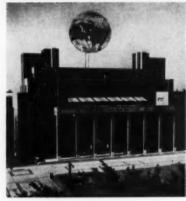
AVAILABLE IN SOLID VINYL . VINYL ASBESTOS . CUSHION BACK VINYL . RUBBER . CORK AND ASPHALT TILE ... OVER 150 DECORATOR COLORS !

THE RECORD REPORTS

Right: 1952 structural study for 20-ft miniature earth, built by Fuller group at the College of Architecture, Cornell University. Far right: Mr. Fuller and the 10-ft model Minni-Earth built by architectural students at Minnesota

Right: perspective of Minni-Earth as it would appear mounted on the Minnesota campus; it would be supported by steel wires attached to four masts mounted on existing penthouses. Minnesota students also designed Minni-Earth installations for the East River, opposite the U. N. Building (far right) and the Pentagon









FULLER GROUP COMPLETES STUDY OF GEODESIC "MINNI-EARTH"

Combining his two foremost interests, navigation and structure, Buckminster Fuller, leading a student group at the University of Minnesota School of Architecture, has completed preliminary studies of "Minni-Earth." When, and if, finished, Minni-Earth will be a one-millionth scale model of the earth.

This early study, on which some of the 30-student team worked for three years, produced a 10-ft model Minni-Earth, with mathematical calculations completed for a three-way great circle grid. One of the knottiest problems to be solved at this stage was the coordination of this three-way grid with conventional latitudinal and longitudinal coordinates; a team of six mathematicians, working with electronic computer, evolved "an omni-triangulated great circle grid of the world coordinated at one deg increments with conventional latitude, longitude grids at deg, min and sec increments."

Following this, the students plotted geographic data on "the Geodesic omnitriangulated great circle grid." Mr. Fuller claims that "this data at 1:3,000,000 (approximately) is so detailed as to constitute flyable data, showing every

small lake, river, railroad and highway."
Posting was done on triangular vinyl sheets, now being printed.

The structure of the real Minni-Earth, based on the same grid as the model, will have an outside diameter of 50 ft, an inside diameter of 40 ft. The shell will be built of 2160 "truncated tetrahedrons", supported by the five-ft deep truss of the globe's framing, and removable -- "a triangularly sectioned phantom file-case drawer." Students will be able "to introduce secondary structural components within each of their truncated-tetra file-drawer frames, which secondary structural elements will, when totally assembled - present the world's geographical configurations, viewable either from the center of the sphere or from outside the sphere, as an open lace-like pattern."

"The outer five-ft zonal depth of Minni-Earth," as Mr. Fuller describes it, "will be appropriately subdivided (like an onion) by concentric spheres, with the radius magnitude of each sphere exaggerated to render clearly visible the separate strata of the Minni-Earth's complex interior. At inner level

will appear the ocean's bottom conformation. Outward of this will appear continental shelves and sea level contours. The basic oceanographic stream data will be shown. Outward of this will occur successively the sky's graded spheres each readably codified in respect to chemical thermal, electric magnetic and pressure limits. In the outer atmosphere will be shown the jetstream's thin doughnut-shaped ranging and its west-to-east 300-400 mph rotation."

The primary advantage of Minni-Earth, in Mr. Fuller's view, will be for astronomical observations. Students could enter the globe, via an opening through the Indian Ocean, and mount a platform at the center; any celestial observations made over "Minni-London" would be accurate for actual London. "The inhabitants at center of Minni-Earth," says Mr. Fuller, "have a rational vision of celestial phenomena, regarding which the inhabitants of big Earth are partially blind. Minni-Earth will thus come to constitute what might be classified - both scientifically and popularly - as a True Planetarium."

(More news on page 21)



KILNOISE

specified for Emerson Elementary School by

La Douald Schace
ARCHITECT OF WARREN, OHIO A.I.A.

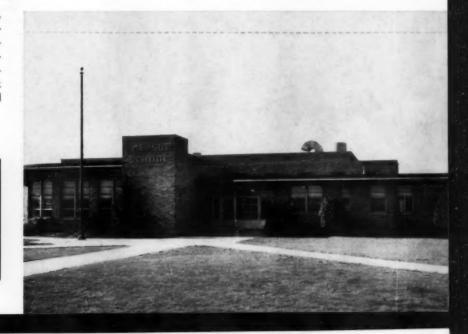
For seven years, Kilnoise Acoustic Plaster has proven itself on the ceilings and sidewalls throughout Emerson Elementary School of Warren, Ohio. When a new addition was recently built, Kilnoise was again specified—over other materials.

A "foamed" pressure lime plaster, KILNOISE has ideal acoustic and decorative qualities. It has high lightreflectivity, efficient sound-absorption, total fire-retardance and moisture-resistance. It offers easy, quick paintability and cleanability, too. And its extreme durability and crack-free qualities are making Kilnoise a standard specification with more and more architects. Kilnoise is today being effectively applied not only in schools but in churches, hospitals, stores,

commercial buildings and residences.

For perfect acoustic applications, KILNOISE fully meets your most rigid specifications. Tiger Products Division of Basic Incorporated, Hanna Building, Cleveland 15, Ohio.

The best acoustical material is Plaster ...and the best Acoustic Plaster is KILNOISE



Kilnoise acoustic plaster can be repeatedly painted . . . without materially reducing sound-absorption

KILNOISE Acoustic Plaster sets monolithically with a hard, durable surface which can be painted many times—using a water base paint—without reducing its sound-absorption qualities to any appreciable degree.

It's amazing how easily Kilnoise can be roller-painted . . . and how quickly it dries! What's more, only infrequent soap-and-water washing is necessary to maintain the handsome appearance of Kilnoise through the years.

The long life of lime plaster, one of the world's oldest interior finishes, is a matter of history. Lime-base KILNOISE has successfully met the test of time under every possible condition of temperature and hard use. KILNOISE is first . . . and it lasts!



DON'T OVERLOOK THESE OTHER KILNOISE FEATURES!



KILNOISE

ACOUSTIC PLASTER

TIGER PRODUCTS DIVISION OF BASIC INCORPORATED . CLEVELAND 15, OHIO



Please send above K1LNOISE sample and full information at no obligation

Firm____

Address

Place 2¢ stamp here

KILNOISE

Tiger Products Division of BASIC INCORPORATED BOX 33 845 HANNA BUILDING CLEVELAND 15, OHIO INCREASED SOUND-ABSORPTION—Many thousands of tiny interconnected pores render Kilnoise highly sound-absorbent. Stippling and random-perforating the surface provide a high noise reduction coefficient of .60.

COMPLETE FIRE SAFETY—KILNOISE is an all-mineral acoustic plaster. It is one-hundred-per-cent non-combustible . . . and a positive fire barrier.

HIGHER MOISTURE RESISTANCE—Wherever humidity is high, other materials may crumble, rust, stain or warp. But Kunoise is impervious to moisture, making it the ideal ceiling for swimming pools, bathrooms, laundries, shower rooms and other high-humidity areas.

MORE LIGHT REFLECTIVITY—KILNOISE provides light reflection excelling that of most other acoustical materials. This furnishes an extra margin of safety where proper lighting has become an increasingly important factor.

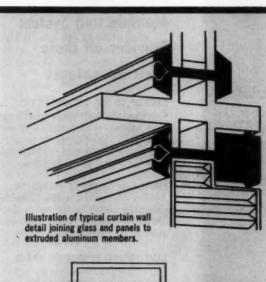
PLEASING APPEARANCE—KILNOISE is a crackless plaster with an interesting, pleasing texture which can be further heightened by relief designs, impressed in the plaster. KILNOISE is fast finding favor with architects for residential applications where appearance is perhaps a more vital factor than in commercial applications.

Inlock Structural Weather Strip... the NEW NEOPRENE WEATHERPROOF setting member...for today's architecture!

Inlock Structural Weather Strip is designed to provide a simple, positive leakproof setting member for use with curtain walls, ribbon windows, separate or continuous sash, or windows in combination with insulated panels. Inlock is usable for skylights; ventilator, picture, and divided lights, in addition to many other structural components used in today's construction.

Inlock is the architectural answer to the

watertight setting of glass, metal sash, panels and other construction materials with durable surfaces. Inlock remains tight . . . rattling and vibration are eliminated . . . sounds deadened . . . panels are free to "move" . . . will not deteriorate. Standard sections are available, or Inland will design to your specifications. Mail the coupon for complete information. Also see our catalog in Sweets Architectural File, 3e/In.







Fast, easy and economical method of installing. . . . A machineade product . . . not affected by man elements.



Inside installation saves time, labor costs and scaffolding; aids removal and replacement of glass



Inlock permits installation of "units" without special clamps, frames, cement or binders. Filler strip creates a powerful com-pression, clamping "units" per-manently in place.



channel for a tight, leakproof, lasting seal. But replacement is as easy as original installation, and gaskets are reusable, thereby eliminating material costs.

Specify...

INLOCK

STRUCTURAL WEATHER STRIP



INLAND MANUFACTURING DIVISION General Motors Corporation, Dayton, Ohio

INLAND MANUFACTURING DIVISION

General Motors Corporation

2733 Inland Avenue, Dayton, Ohio

Send complete information and catalog.

Company___

Address_

Zone



CHERRYWOOD SHOPPING CENTER, WANTAGH, L. I., with 25 stores. One of many in the Long Island area designed and built by Berger & Tilles, who have standardized on Janitrol Unit Heaters. Heating Eng. M. Prop; Heating Contractor, Metropolitan Sheet Metal Co., Elmhurst, L.I.



This blower-type Janitrol unit feeding a duct system is typical of the modern heating provided stores at Cherrywood Shopping Center.



Warm air registers (circled in photo) provide efficient heat distribution in the 25 stores at Cherrywood Shopping Center.



CLEVELAND'S FAMOUS VAN AKEN CENTER,

built and owned by Zehman-Wolf Construction Company. Weinberg and Teare, Architects. Says Mr. Milton A. Wolf, Partner—"With over 80% of our 27 stores year 'round conditioned, savings in air conditioning equipment were important. To cut costs, but not performance, we specified Janitrol Duct Furnaces in combination with summer cooling units. We are completely satisfied with our Janitrols. We've had no maintenance problems."



Suspended Duct Heater combined with a summer conditioner at Van Aken Center. Bypass duct cuts off air through furnace during cooling season.

JANITROL MULTIPLE FOR SHOPPING

Only a Janitrol Multiple Unit System Provides all these Basic Advantages

SAVE UP TO 50% ON INITIAL COST... Compact, factory-assembled Janitrol heaters install easily—save up to 50% on original equipment and installation cost when used in place of a central system.

Actual cost records from major shopping centers show extraordinary savings in fuel and freedom from maintenance expense.

SAVE INCOME-PRODUCING SPACE...
Janitrol units are ceiling mounted, save valuable floor space for sales or service needs.

EXTRA-LONG SERVICE LIFE...Janitrol heaters feature the famous Multi-Thermex Heat Exchanger with the finest performance record in

ARCHITECTS AND ENGINEERS'

Write today for complete A.I.A. files on heating with gas in big buildings of every type, and for Janitrol planning and specifications service. There's no obligation.

MAKERS OF <u>Surface</u> INDUSTRIAL FURNACES, Kathabar HUMIDITY CONDITIONING, Jantical COMMERCIAL, INDUSTRIAL AND RESIDENTIAL HEATING AND COOLING EQUIPMENT.

THE TREND TO HEATING UNITS CENTERS?

the industry—less than ¼ of 1% heat exchanger tube failures in over a million tubes since 1940!

SUMMER COOLING EASILY ADDED...
Cooling coils are easily added in the same ductwork used for heating. A bypass arrangement cuts off air flow through heater during cooling season.

INDIVIDUAL STORE CONTROL...Tenants control heating to suit individual needs. The building owner is relieved of responsibility for operating costs, maintenance, service.

VERSATILE "DUAL FUEL" PERFORM-ANCE... Janitrol heaters use any type gas, including LP; may be switched from one type to another automatically.

Janitrol field representatives are trained in heating layouts and proper installation methods to assure all the benefits and economies of gas—the clean modern fuel, in an efficient multiple-unit system. They will gladly consult with you on your heating problems.



Junitral Heating & Air Conditioning Division Surface Combustion Corporation Columbus 16, Ohio

In Canada: Moffat Heating and Air Conditioning Division, Moffats, Ltd., Toronto 15.



At Eastgate's 13 stores, Janitrol unit heaters

- ... direct heat where most needed
- ... operate only when needed
- ... save valuable floor space

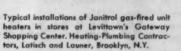




AT LEVITTOWN'S GATEWAY SHOPPING CENTER,

all tenants control their own heating to suit operating hours and individual needs, and the building owner is relieved of responsibility and expense for operation. This convenience for tenants and freedom from furnace financing for the owner is made possible by compact, efficient Janitrol gas-fired unit heaters in place of a central system.









Janitrol Duct Heater installation in Safeway Store at Douglaston Shopping Center.

NEW DOUGLASTON SHOPPING CENTER, QUEENS, N.Y.

(Architect's sketch.) One of 17 Centers developed by Architect Herbert Tannenbaum, New York City, who says—"I feel it is my responsibility to specify more than just a heating system. I demand proved performance, so I have standardized on Janitrol gas-fired heating. I know, from over a decade of experience, of Janitrol's good record for low maintenance and service costs.



WHO SAID DIRT CHEAP?

Preserve your creative efforts—your client's money

Does your best work look soiled and dirty after six months?

It's hard to realize, but most soiling of walls, fixtures and merchandise is done by air-borne particles less than 1/25,000 of an inch in size!*

Now particles this small—even 100 times smaller—can be removed by Honeywell's new Electronic Air Cleaner. The practical efficiency and beauty that you design into building interiors can remain like new indefinitely. Cleaning costs are reduced appreciably.

It is an impossible job for mechanical type filters to

remove microscopic contaminants like oil smoke, fumes, tobacco smoke and most of the fly ash in the air. And these are the ones with the greatest staining power. In this area lie bacteria and viruses, too—the causes of many respiratory ills.

Specify a Honeywell Electronic Air Cleaner and trap air-borne dirt before it has a chance to waste your efforts, your client's money.

For details call your local Honeywell office or write Minneapolis-Honeywell, Department AR-6-191, Minneapolis 8, Minnesota.

Honeywell

H First in Controls

According to tests developed at the National Bureau of Standards, electronic air cleaner remove at least 90% of the dirt particles cassing the greatest staining, while ordinary mechanical filters remove only about 13%.

The State of Construction

Latest figures reported by F. W. Dodge Corporation on contracts for future construction showed a sharp upturn, with the total of \$3,077,977,000 in March 11 per cent ahead of the same month last year. Dodge Vice Chairman Thomas S. Holden called it an all-time record for the month. The cumulative total for the first quarter of 1957, at \$7,538,560,000, also topped last year's corresponding figure - by four per cent. Major factor in the March increase was a 69 per cent rise in the heavy engineering category; nonresidential construction was up three per cent. Residential construction declined seven per cent. Details: page 372.

How Short Are Houses?

The immediate prospect of a housing shortage confronts the nation, according to George Cline Smith, vice president and economist of F. W. Dodge Corporation, who points to continued underbuilding of housing while basic demand continues strong. Addressing the Southeastern Mortgage Clinic of the Mortgage Bankers Association in mid-May, Dr. Smith said "the proof of this particular pudding is in the vacancy rate, which has dropped by 18 per cent, or roughly 250,000 units, in the past six months. During this period, new nonfarm housing starts have been at the annual rate of about one million. The decline in total vacancies, mostly nonfarm, has been at a rate of about half a million a year. This would seem to be clear evidence of what we have suspected

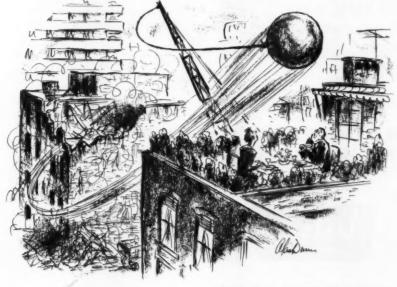
for some time - namely, that homebuilding has not been keeping up with the need. The result is that sharp inroads have been made on the stock of vacant housing, even though vacancies are far below what most experts consider 'normal' levels. Obviously, there has been considerable slippage between basic demand and effective demand for housing. The factors that make for basic demand - population growth and movement, upgrading of incomes, and removal of existing housing units from the market - have never been stronger than they are right now. But record numbers of houses are not being built and sold. The two main reasons for this slippage are high price tags on houses, and tight money. . . . We have admittedly opened the market for new housing through FHA and VA insurance programs to millions of families who ordinarily couldn't dream of building a house. Having added these millions of families to the potential, we now see them subtracted because of a shortage of funds available at the noncompetitive rates fixed for the insured loans. You can't do this sort of thing and make it stick. . . . The important thing, however, is that nothing can contain, for long, the enormous demand pressure dammed up behind our current rate of underbuilding. Something is going to give."

For Creative Design

Civic design objectives get an important new charter in a forthcoming report resulting from a two-year study by a joint committee of the New York chapters of the American Institute of Architects and the American Institute of Planners. The study, intended to make a creative instead of a restrictive approach to the problem of design control, has considered means as well as ends; but, as Clarence Stein remarked at a recent meeting at which a draft of the report was discussed, the study is important for its statement of objectives alone. These, stated in six "principles," are as follows: "1. In our modern American culture, beautiful communities can be created only through a deliberate search for beauty on the part of the citizens, the building industry and the public officials, backed by the understanding will of the people. 2. The institutions, procedures and requirements chosen for exerting public influence over private design must scrupulously observe the economic, social and legal concepts that are the basis of our democratic ways if they are to be effective in the long run. 3. The means by which a community seeks to influence its appearance will be self-defeating unless these liberate and inspire those who design the individual structures. 4. The main function of public action for improving community appearance is to provide individual designers with the larger context in which their particular structures will be viewed. 5. The beauty of a community involves the esthetic quality of all one sees in moving about, and this goes far beyond the design of individual architectural façades. 6. The plan for achieving beauty in a given community must grow out of its special characteristics of site, tradition and potentiality."

Reader Service

The Architectural Index for 1956, seventh edition of the annual guide to what's been published where in the field of architecture, is now off the press. Like the earlier editions, the Index covers seven American periodicals - Arts and Architecture, Architectural Forum, An-CHITECTURAL RECORD, Bulletin of the American Institute of Architects, House & Home, Interiors and Progressive Architecture. Material is indexed by building type, architect, location, subject and author. Compiled and edited by Ervin J. Bell, Architect, and available from The Architectural Index, 517 Bridgeway, Sausalito, Cal.



- Drawn for the RECORD by Alan Dunn

(More news on page 24)



SHERATON-CADILLAC

stays modern
with
AIRTEMP
AIR
CONDITIONING

1949-Ballroom air conditioned by Chrysler's Airtemp Division.

1951-First Airtemp cooling added to Parlors and Meeting Rooms.

1954 – Modernization of cooling system in Dining Rooms, Bars and Lounges starts with new Airtemp equipment.

1955-500 rooms equipped with Airtemp combination heating and cooling.

1956—Dining Rooms, Bars and Lounges switch completely to new Airtemp cooling.

1957-All remaining guest rooms-554
-now receiving Airtemp heating and cooling.

ONE BIG REASON WHY the Sheraton-Cadillac chooses Airtemp:

"Airtemp has been able to effect savings in both installation and operation."

Airtemp ENGINEERED BY CHRYSLER

-makes Air Conditioning practical

for every building project!

Dial
"Springtime"
Any Time



PHONE your local Airtemp outlet. Let them explain the advantages of Airtemp for *your* next project. Or write to: Airtemp Construction Division, Chrysler Corp., Dayton 1, Ohio.

AIR CONDITIONING OR HEATING FOR A ROOM . . . A HOME . . . A BUSINESS . . . AN AUTOMOBILE



new Movable Hauserman Wall System

offers an unlimited medium for creative expression

HORIZON, the revolutionary new wall system conceived by HAUSERMAN, is a giant step toward giving the architect an opportunity to do whatever he wants in designing non-residential interiors. For HORIZON is offered in the widest possible choice of panel materials—genuine wood, aluminum, glass, and steel with baked enamel. To this selection, add innumerable combinations of HORIZON post patterns, panel-joint treatments and colors, hardware, glass patterns and wall finishes. The resulting interior is a distinctive executive office area that reflects custom design at far less than the cost of custom fabrication.

The movability and maintenance features identified with standard HAUSERMAN Walls also are important advantages of the new HORIZON System. All components are completely re-usable when rearranged, and provide for easy installation or relocation of utility lines.

Your nearby HAUSERMAN representative can quickly and graphically illustrate the complete flexibility of HORIZON. Consult the Yellow Pages (under PARTITIONS) and arrange today for a demonstration.

MOVABLE HAUSERMAN INTERIORS

National Lifetime Service . . . an Exclusive Hauserman Dividend

THE E. F. HAUSERMAN COMPANY 7528 Grant Avenue, Cleveland 5, Ohio Hauserman of Canada, Ltd., Toronto, Ontario

Please send your new HORIZON literature to:

Name____

Company _____ Title ____

City _____ Zone ___ State ____





THE RECORD REPORTS BUILDINGS IN THE NEWS

FIVE BUILDINGS PREMIATED IN WESTERN MOUNTAIN AWARDS PROGRAM

Awards of excellence were presented to the buildings shown here in the Western Mountain District, American Institute of Architects, annual honors program: 1. Barrows Furniture Store, Phoenix—Ralph Haver, architect; 2. Green River School, Green River, Ulah—Dean L. Gustavson, architect; 3. United States National Bank Building, Denver—James S. Sudler, architect; 4. Mountain Savings and Loan Building, Boulder, Colo.—Hobart Wagener, architect; and 5. Apache Street School, Farmington, N. Mex.—Flatow & Moore, architects











(More news on page 28)



An open beam ceiling of Armstrong Temlok Roof Deck lends a feeling of greater luxury and spaciousness to this handsome motel room.

Speed light commercial construction, add distinctive open beam interiors with Armstrong Temlok Roof Deck

When you're designing roadside structures and other types of light commercial buildings, consider the advantages of exposed beam design.

This type of roof-ceiling design can save time and money on the job, give your client a distinctive open beam interior.

More and more architects are specifying Armstrong Temlok Roof Deck for motels, restaurants, gift shops, stores, and highway markets. In structures such as these, the graceful sweep of the exposed beam ceiling lends a feeling of greater luxury to the building interior. And a ceiling of this type blends beautifully with either modern or traditional décor.

Temlok Roof Deck is a 4-in-1 material that provides roof deck, complete insulation, multiple vapor barriers, and finished ceiling in one application. It needs only beams to support it and built-up roofing to weatherproof it. Available in 2' x 8' panels, 2" or 3" thick, Temlok

Roof Deck is made up of ½" laminated layers of asphaltimpregnated fiberboard. The interior surface is ½" Temlok insulation board pre-finished with two coats of washable white paint. Where acoustical treatment is desired, Armstrong Cushiontone Roof Deck is available, perforated in the popular Full Random design.

Send for the twenty-four-page booklet, "How to Build with Temlok Roof Deck." It's a valuable reference when you specify exposed beam construction in residential and light commercial jobs. Write today to Armstrong Cork Company, 3706 Rock Street, Lancaster, Pennsylvania.

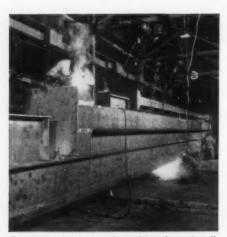
Armstrong BUILDING MATERIALS

• TEMLOK® ROOF DECK • TEMLOK SHEATHING • TEMLOK TILE • CUSHIONTONE® CEILINGS



MORE USEABLE SPACE

...welded design builds it for less money



Fast, efficient fabrication of one of 34 columns for allwelded framework. Columns ranging from 17 to 23 tons in weight are made from standard rolled structural shapes and steel plate.

THERE'S more work area, greater overhead clearance at this new manufacturing plant, thanks to simpler construction with shop welded structural design. And maintenance is simpler too, because there are no splice plates and rivet heads to clean and paint except bolted field connections. Sides are simply curtain walls.

Nearing completion, this 540' x 240' structure has 81'3" overhead clearance beneath its 2-200 ton traveling cranes. The structure also supports 3-60 ton, 2-25 ton, 1-10 ton and 2-2 ton cranes to give maximum efficiency for handling heavy machinery.

This is typical of many types of manufacturing plants now being built simpler, faster, with less steel using welded design. Latest ideas in structural design are presented in new 466 page section of 11th Edition Procedure Handbook of Arc Welding Design & Practice; available by writing:

THE LINCOLN ELECTRIC COMPANY

Dept. 2610, Cleveland 17, Ohio

The World's Largest Manufacturer of Arc Welding Equipment



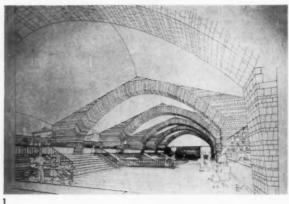
John of Smith-Dougles Co. Inc. huilding Norfolk Virginia Architectural Woodwork, Elliot and Co. Architect. T. David FitzGibbon

Cherry Paneling by Weldwood

The beauty of wood is incomparable. And you can see over 100 actual installation photographs—like this—in the brand-new booklet, "Weldwood Functional Beauty for Business and Institutional Interiors." Your copy is free. There is no obligation. Simply write to—

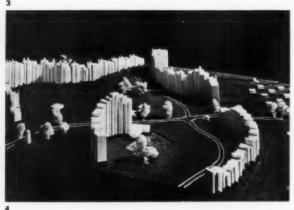
UNITED STATES PLYWOOD CORPORATION, DEPT. AR6-57, 55 WEST 44th STREET, NEW YORK 36, N. Y.

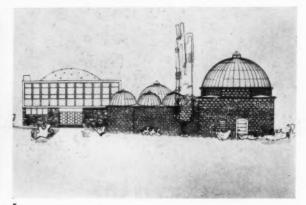
THE RECORD REPORTS











1. Italy — covered market for Orvieto; M. Vagnetti, student; Faculty of Architecture at Rome. 2. Belgium — slaughter house; Enrico Castellani, student; Ecole Nationale Superieure d'Architecture et des Arts Decoratifs, Brussels. 3. Greece — seaside resort; Eleftherios Apostloo, student; Advanced School of Architecture, Athens. 4. Switzerland — "New Town" study; advanced work by student leam; Swiss Federal Institute of Technology, Zurich. 5. Yugoslavia — sanitation museum (addition to ancient baths); Branco Bulic, student; Faculty of Architecture, Sarajevo. 6. Rumania — study of Corinthian Column; Adrian Oprea, student; Institute of Architecture, Bucharest



ARCHITECTURAL STUDENTS FROM 15 NATIONS JOIN EXHIBIT

In an international exhibition sponsored by the National Institute for Architectural Education, work of architectural students from 28 schools of architecture around the world was on display. The nations represented in the exhibit included Austria, Belgium, Canada, Cuba, Czechoslovakia, Greece, Italy, Japan, the Netherlands, Norway, Rumania, Switzerland, Turkey and Yugoslavia. The U. S. was represented by the winner

and runner-up of the Lloyd Warren Fellowship competition.

The drawings and photographs exhibited appeared to prove that the fight for modern architecture has indeed been won, in the schools, at least. The only exceptions to this rule were the entries from Rumania, where students divided their time between studies for peasant dwellings and monuments; their work all carried the stamp of an exacting disci-

pline in draftsmanship (cf. cut 6). The work of the Italian students showed the same discipline. In Czechoslovakia, the only other Iron Curtain country represented in the exhibit, students showed considerably less fidelity to tradition than did the Rumanians.

The exhibit, on view April 23 through May 4 at the Carnegie Endowment for International Peace in New York, is scheduled to travel in this country.



Let Johnson Help On Your Small Building Projects

Johnson Pneumatic—Better for You! Johnson lets you center responsibility for all control work-from design through installation-in one specialized organization. You can count on the same unmatched engineering and installation service on your small installations as Johnson gives you on your big jobs!

Johnson Pneumatic—Better for Owners! Pneumatic control of air conditioning, heating and ventilating

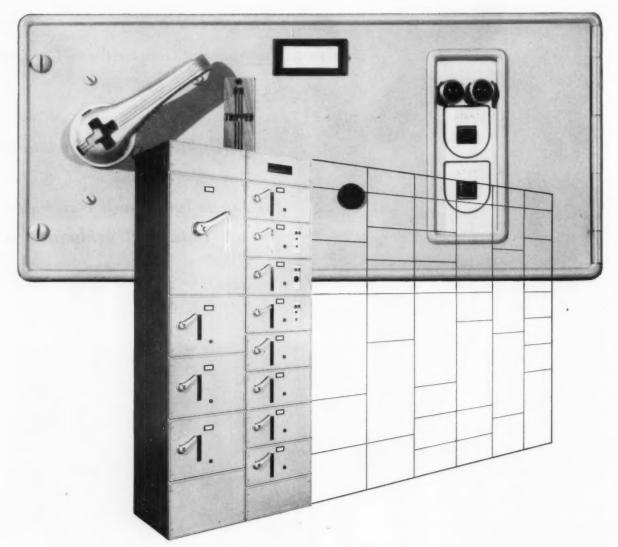
is simpler, requires fewer components and is easier to operate and maintain. Your clients enjoy unsurpassed comfort and long range operating economies. And Johnson Pneumatic Control is backed by the finest service organization in the industry.

For immediate, expert help with temperature or humidity control problems, in any size building, call an engineer from one of Johnson's 105 direct branch offices. Johnson Service Company, Milwaukee 1, Wisconsin.

JOHNSON CONTROL



PLANNING . MANUFACTURING . INSTALLING . SINCE 1885



New 91/3-inch control center units mean greatest flexibility

Westinghouse control centers with 91/3- and 14-inch interchangeable modular units provide for expansion needs

It's impossible to foresee how big a plant will be ten years from now. But you can be ready for future growth with the Westinghouse control center. It will be ready to meet whatever demands are made on it for expansion or modification.

The clean, modern design is made for tomorrow. It's easy to lay out, completely interchangeable. New 91/3-inch units save valuable plant space. Available in both indoor and outdoor types, "walkin" or "non-walk-in".

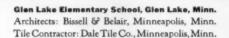
To see how easy it is to plan and specify industry's most advanced control center, contact your Westinghouse sales engineer. Or write Westinghouse Electric Corporation, 3 Gateway Center, Pittsburgh 30, Pennsylvania. Ask for B-6722.

YOU CAN BE SURE ... IF IT'S Westinghouse (W)













Romany Spartan tile selected for Glen Lake school

The advanced thinking of our architectural designers, their skillful blending of modern and traditional material, and their utilization of new building techniques are providing America with the world's finest school buildings.

In this program, ceramic tile is playing an important part. New setting methods offer new opportunities to use tile where cost or weight is a factor. And Romany•Spartan offers a complete line to fill every functional and design need. Little wonder that more and more architects the country over are specifying Romany•Spartan.

If you'd like design help or more information, contact your nearby Romany-Spartan representative or write United States Ceramic Tile Company, Department R-13, Canton 2, Ohio.



Member:
Tile Council of America
The Producers' Council, Inc.

JETS AND AIRPORT DESIGN: CAA LOOKS FOR EASY DEVELOPMENT

The rash of spectacular and somewhat alarming statements about airport design changes that would be imposed by the advent of the jet age has come and gone. A "second look" at the future planning requirements - as far as they can be assessed from the performance of prototypes and engineer calculations from the drafting board - has led government officials in the Civil Aeronautics Administration and many airplane manufacturers to this conclusion: present planning and construction at the big airports, in both runways and terminal structures, will be able to accommodate the jet transports of the known future.

In other words, the demands these larger planes with their increased capacity would make on the physical facilities of airports does not loom so large and unmanageable today as it did a few short months ago.

This does not discount certain problems, many of them as yet unknown, that will come with increased technological development of aircraft. But CAA convincingly tells you it sees no architectural confusion in the year-by-year job of designing new and expanded airports.

The agency insists, for example, that every new bit of construction, be it runway improvement or the development of an entirely new complex, as far as possible look at least a full decade in advance. Improvements should be designed and constructed so that they can handle traffic adequately for the next 10 years, one spokesman said. At the end of that time we can think about the second stage of construction — the expansion that might then be required.

Still, in any discussion of airport design for the future, the unknowns creep in. Experiments are going forward with the vertical take-off principle, particularly in military circles. Immediately ahead, says a recent CAA publication (1960-1965-1970 Civil Aviation and Federal Airways Forecasts) are several engineering developments which may increase further the utility of general aviation aircraft. Considerable research and development is being directed toward various aspects of steep take-off and landing problems. Development also is continuing with helicopters and convertiplanes.

But these are continuing considerations that bear only indirectly on the problem of the architect designing a new or expanded airport today. He necessarily must deal with the "knowns" as developed by his clients.

CAA's first request to the architect is that he consult initially, not after he has prepared sketches, with the agency's architects and engineers. They are in each of the four regional centers — New York City, Fort Worth, Kansas City, and Los Angeles. It was pointed out that much time and effort can be saved if the architect acquaints himself with CAA knowledge and requirements before he touches pencil to paper.

What are some of the more certain problems?

Volumewise, the American-Flag industry is committed to purchase around 400 pure jet and prop-jet airliners: cost \$2.6 billion. These do not include the Viscounts already delivered. Of the jet airliners now on order, 213 will be pure jets.

A typical big jet airliner, says Stuart G. Tipton, president of the Air Transport Association of America, may weigh close to 300,000 lb compared with 145,-800 lb for the largest airliner in regular service today. It will have a lift capacity of 40,000 lb compared with 23,640 in the big airliner today. In tourist configuration, it will offer up to 150 seats compared to 95 seats now available on a typical large tourist-class plane.

Jet transports are expected to arrive on the commercial aviation scene from two to three years hence—late 1959 and 1960.

These facts are not now posing any particular engineering problems, say CAA and the airlines themselves, in the construction of airfields. Mr. Tipton states that the average jet transport flight on the average day can be expected to require some 8000 ft of runway. This may jump to 10,000 for a heavily-laden intercontinental jet. Here added fuel requirements push the needed runway length somewhat. Comments Mr. Tipton: ". . . We do not anticipate elaborate changes in the country's airport system as far as length of runways is concerned. . . . There are some places, like Washington (D. C.), where the runways are too short to take jets.

Unfortunately, I would be unable to indicate a percentage of airports that must be changed. I can only say this: that the airlines and the managers of the airports of the country are working closely together in re-examining the airports and examining the service, the jet service contemplated out of these fields. It is a cooperative effort in which we expect to have airports and airplanes ready at the same time."

CAA is estimating that by July 1, 1961, 466 of the large new jet transports will have been added to the airlines' fleet which today numbers some 1800 planes. The government agency has worked out a table, based on preliminary data supplied by manufacturers, indicating that effective runway lengths at more than a score of U. S. airports could today send jet planes of the known type, and those on order from drawing board status, non-stop distances ranging from 800 to 4600 statute miles.

There has been much discussion of the design changes that might be required in air terminal facilities, largely because of the added passenger loads and new type plane handling facilities. Here again CAA is optimistic that the normal evolution of terminal building architecture will solve all problems. They point to the latest designs with confidence that the facilities will be able to handle the relatively small additional passenger burden that jet transports will inflict in the earliest years of their appearance.

Beyond that time, as the number of jet transports in use increases? No one knows. CAA Administrator James T. Pyle, who some time ago said an architectural genius might be required to solve their terminal building problem, now states:

"Our job is to have the airways, the airports and the services ready for air commerce when it increases in size, and it takes a combination of informed guesses by veteran forecasters to do it. . . . We're in a fast league forecasting in an industry that shows this kind of growth: Domestic revenue passengers increased from 2.5 million in 1940 to 17 million in 1950, to 38 million in 1955 and 42 million in 1956. We look ahead and forecast 118 million in 1970. Of only one thing are we certain: the figures are going to be bigger."

(More news on page 36)



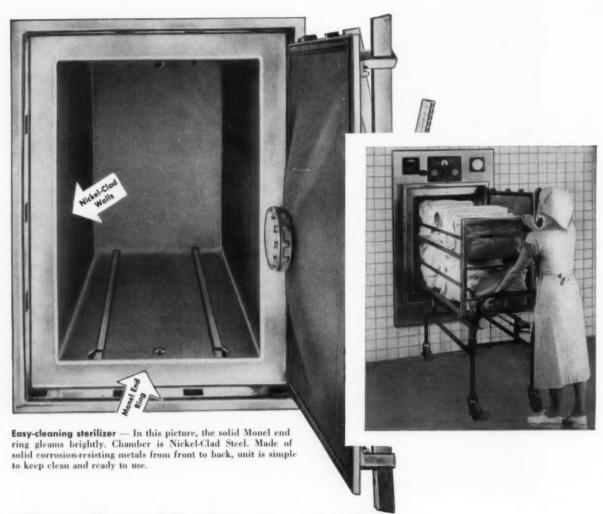








The National Biscuit Company has selected MILLS MOVABLE PARTITIONS for its new General Office at 425 Park Avenue, New York. Occupying six stories, these offices contain 6000 lineal feet of MILLS MOVABLE PARTITIONS. At the left are photographs of the offices showing the versatility and adaptability of the partitions. Write for catalog: The Mills Company 914 Wayside Road Cleveland 10, Ohio.



Monel end ring guards American's new bulk sterilizer...

Teams up with Nickel-Clad chamber for complete protection against corrosion

If there's one place on a sterilizer that really takes a beating, it's the end ring.

Loading racks and trays jar it. The door closes on it. Locking arms press against it. It endures heat, pressure, corrosive attack.

But this is American Sterilizer Company's new M. E. sterilizer. That means the end ring is Monel* nickel-copper alloy. So it is hard and tough. It stays bright and attractive. Looks as efficient as it is.

Sterilizer sealed against corrosion

American welds the long-wearing Monel end ring to a sterilizing chamber of Lukens Nickel-Clad Steel. Both metals are outstanding for resistance to corrosion by steam, saline and other hospital solutions.

Less work for the staff

These sterilizers are easy to clean. Soap and water or common abrasive clean-

ing powders keep these sturdy metals bright.

"Renovating? Rebuilding? Write American Sterilizer Company, Dept. 7-12N, Erie 6, Pa. Ask about their planning service... and about their new M.E. Series sterilizers.

*Registered trademark

The International Nickel Company, Inc. 67 Wall Street New York 5, N. Y.



Nickel-Clad and Monel sterilizers . . . long life, easy to care for



Increased production meets demands for genuine STRUCTURAL FACING TILE!



Filtration plant cortidor combines good looks and good visibility with walls of glazed Facing Tile in light cream and soft green shades.



Structural strength plus low maintenance make Facing Tile ideal for industrial interiors. Nottingbam Filtration Plant. Euclid, Obio. Consulting Architects: Small, Smith and Reeb; Consulting Engineers: Havens and Emerson.

Another important reason for specifying Structural Facing Tile for loadbearing interior walls!

A pinch in steel supplies won't cause costly delay. Increased production of Structural Facing Tile insures deliveries as required.

And as every experienced architect knows, structural clay with ceramic finish is ideal for commercial and industrial structures, schools and hospitals. Builds walls and beautiful, durable finish in one...resists hardest usage, stays lovely with a minimum of maintenance, and without refinishing.

Your clients will welcome the wonderful advantages of Structural Facing Tile . . . and on-time completion.

This seal is your assurance of



highest quality Facing Tile.

FACING TILE INSTITUTE

2556 Clearview Avenue, N. W., Glendale 5-5329, Canton 8, Obio 1520 18th Streat, N. W., Hudson 3-4200, Wathington 6, D. C. 1949 Grand Central Terminal, Murray Hill 9-0270, N. Y. 217, N. Y. 221 N. LaSalle Street, Andover 3-6449, Chicago, Ill.

In the interest of better Facing Tile construction these companies have contributed to this advertisement.

CHARLESTON CLAY PRODUCTS CO.
Charleston 22, West Virginia
THE CLAYCRAFT CO.
Columbus 16, Ohio
MAPLETON CLAY PRODUCTS CO.
MAPLETON CLAY PRODUCTS CO.
METROPOLITAN BRICK, INC.
Candon 2, Ohio

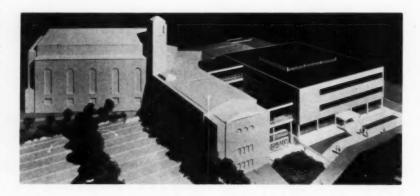
MCHEES-KITTANNING CO.
Kittanning, Pennsylvania
NATCO COMPORATION
Pittsburgh 22, Pennsylvania
STARK CERAMICS, INC.
Canton 1, Ohio
WEST VIRGUINIA BRICK CO.
Charleston 24, West Virginia

AN OLD SYNAGOGUE GETS A NEW ADDITION

A frankly contemporary solution to the problem of a major addition to an old building has been evolved by the architect, Jack Brenzel, John B. Parkin Associates, in this project for Holy Blossom Temple, a reformed Jewish congregation in Toronto. The proposed addition provides increased facilities for child education, youth activities and adult social activities. "The primary concern," the architect writes, "is to build a new education and social center that will be in keeping with the standards of today, maintaining an entity of its own and, at the same time, tying it both physically as well as esthetically to the existing sanctuary and school." The major functional problems, those of separating the areas used by the children and youth from those used by the adults and of connecting them with related areas in the existing building, have been solved by putting the school on the two upper floors and the adult auditorium on the lower two and connecting them to the old building on each floor by means of two glass "necks." As for the esthetic problem, the architect writes: "In order to maintain a sympathetic relationship with the existing sanctuary and school, the exterior walls are of exposed concrete. The texture

resulting from the concrete mix and the horizontal forming boards is repeated in the new structure. The 'slot' type window in the two upper school floors is an attempt to further the relation. The Roman arch found in the existing sanctuary windows is used in the new building in the form of a barrel vault canopy at the entrance to the school and in the barrel vault clerestory. The sculptured concrete screen on the north side visually carries the exterior material from one building to the other."







(Continued on page 40)



For The Designer : New Ceilings To Work With

Ceilings are playing an increasingly important part in building design.

More glass areas on exteriors (above) are making ceilings more prominent. Greater emphasis on room layout flexibility is requiring ceilings that are modular, ceilings that combine interchangeable component parts for sound conditioning, lighting, air diffusion.

To meet architectural requirements, your Acousti-Celotex distributor has a constantly broadening range of Celotex acoustical materials and suspension systems to offer you.

In the installation shown above, the architect chose Steel-acoustic* panels—an incombustible, 2' x 2' louvered steel facing

with a sound absorbing element laminated to the back. These panels combine high sound absorption with easy maintenance, removability, a fresh original appearance, plus economy. The Celotex T&T* suspension system used here, on 24" centers, ties the 24" x 48" recessed light fixtures into a modular, flexible layout with the Steelacoustic panels.

Ask your Acousti-Celotex distributor how these new products and his services can contribute to your next project.

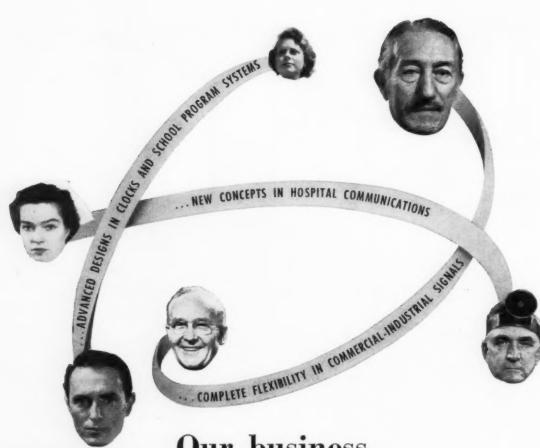
For Complete Details on Acousti-Celotex Steelacoustic Panels and other acoustical products, write to the Celotex Corporation, Dept. B-67, 120 S. LaSalle St., Chicago 3, Illinois.

*REG. U. S. PAT. OFF.



ACOUSTI-CELOTEX Sound Conditioning

Products to Meet Every Sound Conditioning Problem . . . Every Building Code—The Colorex Corporation, 120 S. LaSalle St., Chicago 3, Illinois * In Canada: Dominion Sound Equipments, Ltd., Montreal, Quebec



Our business is communications



Your clients will appreciate the many advantages of Sperti Faraday precision engineered signal systems. From a simple buzzer to Visicall, the electronic marvel that lets you see and talk, you can always depend on Sperti Faraday, pioneers in the industry, for the latest developments in visual and audible communication systems.

You can rely on Sperti Faraday to speed the flow of goods and services in all stages of production and in all walks of life. Pioneers in industrial, commercial and institutional signaling systems, Sperti Faraday precision engineered products meet today's need for maximum efficiency in audible and visual communications.

For information on how Sperti Faraday engineering can help increase efficiency while lowering your cost of communications, write to Sperti Faraday; Inc., Adrian, Mich. In Canada, write Sperti Faraday, Ltd., Montreal.



Designers and Producers of Visual and Audible Signals Since 1875

Adrian, Michigan

Offices in 36 principal cities in the U.S.A. and Canada

Inquire today about these Sperti Faraday engineered products.

Fire Alarm Systems • Electric Clock Systems • Hospital Systems, Visicall • Audible Signals • Annunciators • Plugmaster Cord Sets • Synchronous Clocks • Transformers • Contact Devices.

As attractive in business as it is gracious at home...



wood paneling!

Rib Room . . . Hotel Roosevelt, New York. Here guests from the world over dine in an inviting



New guest room in the home of TV stars Peter Lind Haves and Mary Healy gains light-hearted charm from walls of elm Craftwall.

Craftwall has that genuine hand-rubbed look . . . professionally pre-finished to give the most durable wood finish known . . . every "plank" selected to show the superb, natural grain.

Today, home-like charm sets the mood being created for many commercial and institutional locations-offices, smart shops, restaurants. Achieving it becomes so much simpler with Craftwall wood paneling.

Craftwall has such special richness and warmth. And what versatility for you in its nine distinctive woods: Elm, two kinds of Birch, Cherry, Maple, Knotty Pine, Oak, Mahogany and Walnut. All are beautifully finished to a glowing, durable luster that resists scuffs and stains. Craftwall needs no

waxing either . . . cleans with a damp cloth. Clients are assured minimum upkeep, work and expense.

Craftwall 1/4" panels come in modular sizes (48"x96", 48"x84", 32"x64", 16"x96", or longer)-particularly valuable on modernizing jobs where speed is so important. You can recommend Craftwall wood panel-

ing with complete confidence. It's backed by a written lifetime guarantee to your client. Craftwall could be the answer to many of your current design and wall treatment problems. Why not send the coupon for additional details? (In New York, visit our Roddis Rockefeller Center Showroom -620 Fifth Avenue.)

Wood Finishes . . . Adhesives . . . Plywoods and Hardboards

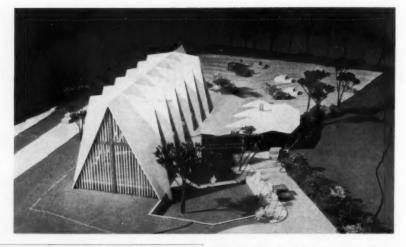
Craftwail idea and Fact File on request! Roddis Plywood Corp., Dept. AR-657, Marshfield, Wisconsin
Please send me your Designer's Idea and Fact Fi on Craftwall wood paneling.
Name

THE RECORD REPORTS

(Continued from page 36)

CONTEMPORARY EXPRESSION FOR TRADITIONAL SPIRIT

This design by Architect James A. Murray for the Yorkminster United Church near Toronto is an effort to respect traditional philosophies of church building in a structure that also expresses the religious spirit of today.



Get your share of Shakertown Gold... 1,000,000 CARTONS
Shakertown GLUMAC UNITS have been sold! More home owners, builders, architects and dealers prefer the original cedar shake panel by Shakertown - First Name in Cedar Shakes! hakertown PRODUCTS COMPANY 20310 KINSMAN ROAD . CLEVELAND 22, OHIO

The project is being constructed in stages, with the nave and chancel first to be completed; a Sunday School wing and parlor (at right in model photo) will be next. The structure is a series of groups of four laminated wood beams rising to a height of 55 ft from the floor of the nave; foundation and exteriors are reinforced concrete.



ADATH ISRAEL SYNAGOGUE: ANOTHER TORONTO PROJECT

A new synagogue for Adath Israel congregation is under construction in North York Township near Toronto.

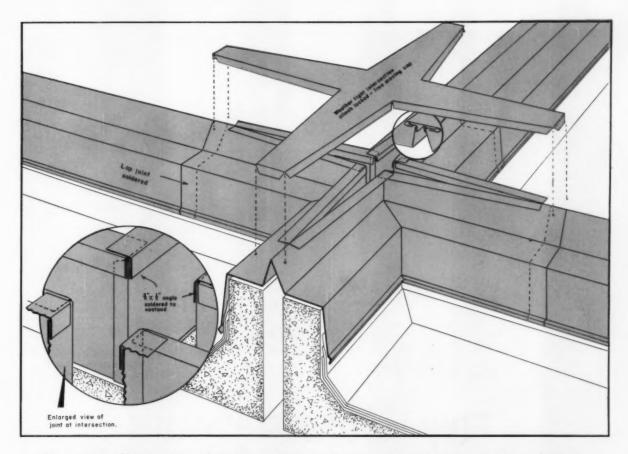
The sanctuary is "in the round," the architect writes, "similar to the Elizabethan stage." It will seat about 800, and will be enclosed by a dome spanning over 100 ft and rising about 40 ft from floor to top.

Other facilities to be provided include a social hall for about 400; a small chapel, oval in shape, seating about 125; a number of classrooms and smaller meeting rooms; offices and service facilities.

Architect for the project is Irving Grossman of Toronto.



(Continued on page 44)



How to flash the intersection of structural expansion joints

Flashing the intersection of structural expansion joints requires a design that will permit freedom of movement during the expansion or contraction of the structure—and yet will provide a weatherproof covering at these intersections.

Cornice temper copper in 16-oz. or 20-oz. weight is recommended for expansion-joint flashing, and the drawing above suggests a method for flashing at intersections. Note that the flashing for each of the 4 expansion joints

is cut back on the center line of the expansion fold for a distance of about 18" to form a tapered opening. This break in the long, straight run of metal limits the effect of expansion and contraction on the flashing to the distance between intersections.

The ¾" x ½" angles formed from 20-oz. copper are soldered to the upstanding legs of the expansion fold. The one-piece cap is clinch-locked to the angles and forms a free-moving, weather-tight cover.





Architects: Fisher, Nes, Campbell & Associates; Consulting Engineers: Egli and Gompf, Inc.; Structural Engineer: Van Rensselaer P. Sax; General Contractors: Crow-Bart — William L. Crow Construction Co., and Harry Bart; Mechanical Contractors: The Poole and Kent Co.

This is MONDAWMIN

. . . Baltimore's unique 60-store shopping center where you can buy your groceries, take out an insurance policy, or select a bowling ball in air-conditioned comfort!



Air conditioning is an important tool in merchandising – both for customer comfort and for keeping qualified sales personnel, according to Mondawmin Manager lerome S. McDermott.



Discussing Mondawmin's air conditioning, left to right: A. J. Simpson, American Blower; A. M. Gompf, consulting engineer; J. S. McDermott, Mondawmin manager; E. R. Kent, mechanical contractor.

How do you air-condition 60 stores, each with its own temperature requirements . . . in half the amount of space usually allocated to an air-conditioning system?

Mondawmin, in Baltimore, Maryland — a compact, two-level shopping center designed for convenience — solved the problem with a unique system built around American Blower Multi-Zone air-conditioning units.

In the words of Mechanical Contractor E. Robert Kent: "By letting each compact Multi-Zone air conditioner serve several stores, we were able to make 10 units act as more than 60 individual pieces of equipment. Thus, every store has its own air-conditioning system, thermostatically controlled and automatically meeting its needs for cool, warm, or fresh air. We knew from experience that the American Blower units would give efficient, trouble-free service. And we were particularly impressed with the personal attention American Blower gave us throughout the project."

If you plan to air-condition, why not ask your architect or engineer about American Blower equipment; or call our nearest branch office. American Blower Division of American-Standard, Detroit 32, Michigan. In Canada: Canadian Sirocco products, Windsor, Ontario.

AMERICAN BLOWER



Division of AMERICAN-Standard

AIR-CONDITIONING EQUIPMENT FOR EVERY BUSINESS



BROADWAY SCHOOL

NEWARK, N. J.

Kruger & Fava—Architects

Water Kidde Constructors, Inc.—Builder

Spandrel panels and entrances

are in Mountain Green Ceramic Veneer

units 20" x 20" x 1½".



Youthful, lasting color for generations to come

No building material is more stimulating to creative design than Ceramic Veneer, the modern architectural terra cotta. Unmatched in versatility of form, color and texture, it fits into your plans for smart, functional schools where color is used to keynote youth, generation after generation. You have full freedom in the selection of colors and textures because Federal Seaboard custom-makes every unit, large or small—plain surfaces, sculpture, or decorative panels—to your precise specifications. Big-city grit and grime are resisted by the fire-hardened surface, which requires only simple soap-and-water washings for retention of original beauty. For interiors as well as exteriors, in schools and other, public buildings, Ceramic Veneer is in a class by itself—for quality, appearance, permanence and price. Without charge we will gladly furnish construction detail, data, color samples, and advice on preliminary sketches involving use of Ceramic Veneer.



FEDERAL SEABOARD TERRA COTTA CORPORATION

10 East 40th Street, New York 16, N. Y. • Plant at Perth Amboy, N. J.

THE RECORD REPORTS

NEWS FROM CANADA

(Continued from page 40)

AN ARCHITECTURAL LOOK AT THE FUTURE OF VANCOUVER

Following publication of a report, "Downtown Vancouver, 1955–1976," by its Technical Planning Board, Vancouver's city council invited various professional, business and civic groups in Vancouver to study the conditions

described and recommend what should be done to halt further decline in business volume and assessment values. (Whereas 10 years ago, in the metropolitan area of Vancouver, eighty cents of every consumer dollar was spent downtown, today only fifty cents is spent there.)

The most exciting answer proposed to the problem so far is "Project '58", an ambitious scheme aimed at restoring the ailing section of the city to full economic health. It is the work of an association of architects, consisting of Wells

Coates, Arthur Erickson, Geoffrey Massey, Peter Oberlander, and E. J. Watkins, architects, urban planners and designers.

These professionals, who have private sponsorship, realize that the success or failure of so momentous an undertaking as the complete renewal of Vancouver's business, commercial and cultural core, rests on public acceptance. Therefore, they have undertaken to prepare a "living" display of their concepts of a new city center, timed to coincide with the B. C. Centennial in the summer of 1958.

The exhibition — final goal of "Project '58" — will provide, in the form of models and renderings, a comprehensive visual translation of numerous analytical studies and forecasts, made in collaboration with various professional, business and civic groups as well as city departments.

One of the parties most vitally concerned is, of course, the Downtown Business Association. To this body, the "group of five" has suggested formation of a redevelopment corporation. Such a body would be the entity through which all affected interests could channel their ideas and proposals.

Curtain was lifted on "Project '58" on April 17, at a joint meeting of the Vancouver Chapter, Architectural Institute of B. C., and the Vancouver Branch, Community Planning Associa(Continued on page 46)

SHELL OIL BUILDING, under way in Toronto and scheduled for completion late in 1958, will be 13 stories high but designed for extension to 20 stories. Structure is to be welded steel. Estimated cost is \$6 million. Architects: Marani & Morris. General contractor: Redfern Construction Co. Ltd.

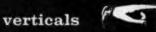


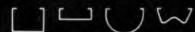
Complete design Versatility with standard components

windows



Specify any size or type your design requires. Glass can be clear or patterned, and single or double glazed. Sash can be either fixed or operating in awning, projected, pivoted and hopper types or Robertson's new V-Window (hinged for inside cleaning).





The verticals as well as all trim can be fabricated from a variety of materials to provide contrast with the spandrels. The vertical members can be fabricated in a number of cross-sections to suit your design requirement.

spandrels F



Here again, an infinite number of design and size selections are possible. The V-Panels can have a wide variety of surface patterns and be fabricated in aluminum, bronze, stainless steel, Galbestos or vitreous enameled aluminum or steel. Versatile Wall offers complete freedom of design.

H. H. ROBERTSON CO.

Pioneers in puttyless glazing since 1915



2400 Farmers Bank Bldg. Pittsburgh, Pa.

In England Robertson Thain Ltd. Ellesmere Part, Cheshire In Canada Robertson-Irwin Ltd., Hamilton, Ontario

bertson ersatile

...a curtain wall as individual as your signature

Please send additional information

NAME

COMPANY

ADDRESS

CITY

Keeping industry bright with | ABolite



High bay factory lighted by 500-watt incandescent lamps in Abolite GBF Protecto Shields

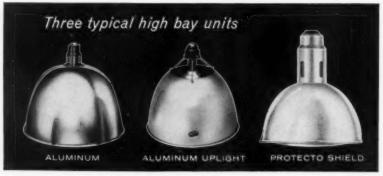
For high bay installations ...

Specify self-cleaning Abolite units for long lamp life, low maintenance

The self-cleaning action of Abolite lighting fixtures makes them ideal for high bay installations, where maintenance is difficult and costly. All high bay fixtures developed by Abolite have either slotted-necks or open-top designs. Air circulation through these openings keeps the reflector surface swept clean, reduces lamp operating temperatures. Lighting efficiency remains high. Replacement costs are lower because cooler lamps last longer.

Abolite has a complete line of high bay fixtures, including RLM-approved Alzak aluminum and porcelain enamel types for use with all kinds of mercury and incandescent lamps. For full details, write Abolite Lighting Division, The Jones Metal Products Co., West Lafayette, Ohio.





THE RECORD REPORTS

NEWS FROM CANADA

(Continued from page 44)

tion of Canada. The five-man team, appearing as the program feature, urged that immediate action be taken to stave off decline of the city's heart.

ALBERTA ENGINEERS ELECT AT CONVENTION IN CALGARY

Holding its 37th annual meeting in Calgary, the Association of Professional Engineers of Alberta elected Dr. J. C. Sproule of Calgary president. He succeeds J. Graham Dale of Edmonton.

New vice president is Dr. G. W. Govier, also of Edmonton. Elected to council for three-year terms were C. W. Coote, Edmonton; W. D. Stothert, Edmonton; R. N. McManus, Edmonton; and R. D. Hall, Lethbridge. B. A. Monkman of Calgary was elected for a two-year council tenure. J. F. Mc-Dougall is registrar of the association; executive secretary is A. E. McDonald. Both are located in Edmonton.

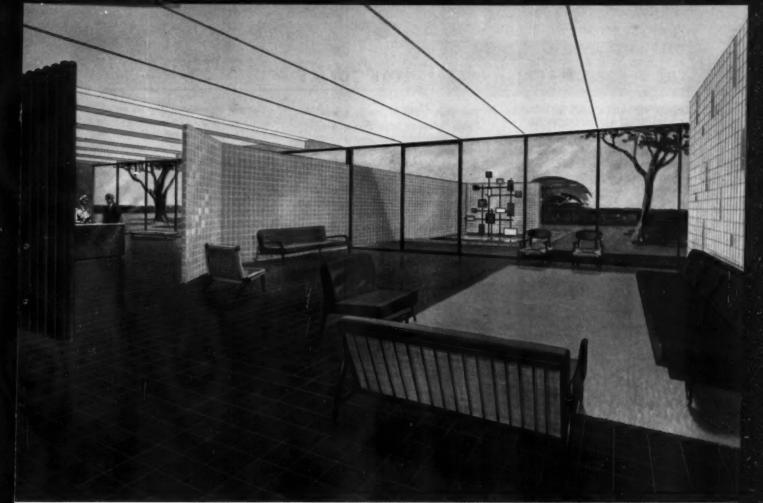
The Alberta engineers gave life memberships to two long standing members of the association - H. R. Younger and Frank Tempest, both of Calgary.

In addition, an honorary membership was bestowed upon Rt. Hon. C. D. Howe, Federal Minister of Trade & Commerce and a professional engineer in his own right, who was a guest speaker at the meeting.

In his address, Mr. Howe emphasized the need for more engineers in government. He termed the profession as "about the most outstanding of any I can imagine. Today the engineer is the most sought after of all the professional men," he said.

Contracts Awarded: Comparative Figures'

(More news on page 48)



Design for Hospital Entrance by Belluschi and Skidmore, Owings & Merrill

"CERAMIC TILE...FOR PERMANENT COLOR CLARITY, DURABILITY AND MINIMUM MAINTENANCE"

BELLUSCHI AND SKIDMORE, OWINGS & MERRILL

Belluschi and Skidmore, Owings & Merrill bypassed the institutional look . . . made ceramic tile color a therapeutic factor in this refreshing hospital entrance design . . . and guaranteed long life and low maintenance with well-considered ceramic tile specifications.

Tile's unique beauty, design flexibility and durability were all fully recognized. Imaginative use of standard tile units achieved an air of relaxation, efficiency and rigid cleanliness. Beauty is only the eye-catching part of the story. Consider the design from a hospital trustee "cost-accounting" viewpoint.

There's a tile floor to fight foot traffic for years with minimum wear and maintenance. The glazed tile wall at the right will gleam brightly on generations of patients. Take the inside-outside penetrating wall in the center—vivid proof of how tile's fired-fast colors can take extreme exposures. Note the smaller tiles facing the front of the reception desk. These fireproof surfaces will never need waxing, costly maintenance or replacement.

If you demand beauty, durability, long-range economy or design flexibility, you will find that ceramic tile provides them all. Your local tile contractor will give the details on the wide range of colors, textures and sizes. Specify ceramic tile on your next residential, institutional or commercial building. Both you and your client will be glad you did.

The Modern Style is

TILE COUNCIL OF AMERICA, INC., 800 Second Avenue, New York 17, New York Room 993, 727 West Seventh Street, Los Angeles 14, California • Room 220, 3409 Oak Lawn Avenue, Dallas, Texas. Participating Companies: American Encaustic Tiling Co., Inc. • Atlantic Tile Mfg. Co. • Cambridge Tile Mfg. Co. • Carlyle Tile Co. General Tile Co. • Gladding, McBean & Co. • Jordan Tile Mfg. Co. • Lone Star Ceramics Co. • Monarch Tile Mfg. Inc. • Mosaic Tile Co. • Murray Tile Co., Inc. • National Tile & Mfg. Co. • Olean Tile Co. • Pacific Tile and Porcelain Co. • Pomona Tile Mfg. Co. Ridgeway Tile Co. • Robertson Mfg. Co. • Royal Tile Mfg. Co. • Sparta Ceramic Co. • Stylon Corp. • Stylon Southern Corp. Summitville Tiles, Inc. • Texeramics, Inc. • United States Ceramic Tile Co. • Wenczel Tile Co. • Whourn Tile Mfg. Co.



PROPOSE ADVISORY PANEL ON PUBLIC ARCHITECTURE

The move to establish a broader approach to the design of Federal buildings gained new momentum last month with the introduction of identical bills in the House by Representatives Frank Thompson Jr. (D-N. J.), H.R. 7106, and Henry S. Reuss (D-Wis.), H.R. 7071.

These measures purported to meet the objections interposed earlier by the General Services Administration to other

Thompson-Reuss efforts to amend the Public Buildings Act to expand the Fine Arts Commission and require Federal government officials (GSA's Public Buildings Service) to advise and consult with it on the architectural concept of new public buildings. It remained to be learned exactly what GSA's reaction to the new proposals would be, however. The Public Works committee to which the new bills were referred, had asked GSA to comment.

The new suggestion called for an advisory board of government architecture and decorative art which would provide advice and consultation on "the design style and decoration" of Federal buildings constructed throughout the country.

So important was the development to architects that Leon Chatelain, president of the American Institute of Architects, advised the office of Representative Thompson that he would schedule a discussion of the new legislation at the 89th annual convention in mid-May. AIA obtained multiple copies of the draft bill and in general it was thought that architects would support the new proposals. [They did; see page 8Aff.]

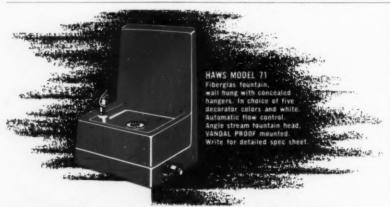
In its draft form, the legislation would compose the new board of 11 members including four architects, one architecttural historian, one landscape architect, two painters, one sculptor, one expert in the craft arts, and one expert in interior design. The GSA administrator would be directed to advise and consult with the Fine Arts Commission on District of Columbia construction and with the new board group on other Federal buildings. This course would be required "in order to establish the highest possible standards for architectural design, style and decoration for Federal public buildings, and methods of achieving such standards. . . ." The legislation made this important distinction - such advice and consultation would be with respect to general standards and methods, referring to specific buildings only where the GSA requested such reference.

Appointments to the proposed board would be made by the President of the United States from among private citizens who enjoy wide recognition in their respective fields. He also would name the chairman. For precedents to "qualify" their proposals, the bills' authors cite the advisory committee of architects to the State Department on foreign buildings and the President's presented plan for a Federal advisory council on the arts in the Department of Health, Education and Welfare.

LEASE-PURCHASE REVIVED AFTER 3-MONTH "FREEZE"

The dormant lease-purchase construction program came to life May 9, with announcement of the Administration decision to lift the three-month "freeze" on all construction work under this act.

The announcement was made by (Continued on page 300)



Brilliant design in fiberglas...
beautiful, lightweight, tough.
Color, too, offers new
planning versatility. See
this model and others
which make it to your
advantage to always
specify HAWS Fountains.

See the complete selection in HAWS 1957 catalog. Write for your free copy today.



DRINKING FAUCET CO.

1441 FOURTH STREET (Since 1909) BERKELEY 10, CALIFORNIA

ARCHITECTURAL RECORD

WESTERN SECTION

Western Editor: ELISABETH KENDALL THOMPSON, A.I.A. 2877 Shasta Rd., Serkeley 8, Calif.

Copyright 1957, all rights reserved. F. W. Dodge Corporation, 119 W. 40th Street, New York 18, N. Y.

THE FORTY-ONE THOUSAND MILE CHALLENGE

Across the united states, north-south, east-west, and criss-cross of these compass points, a fifty-billion-dollar road system is in the making — super throughways that could be bane or blessing. Which they will be depends right at this moment on the interest which the citizenry shows in their development, on the standard it demands for the 41,000 miles of roadways we will be buying in the next fifteen years.

So far, about the only standard to be voiced by the design professions — citizens all, with voices that should be heard as much as those of the vested interests in industry and commerce — is that there should be rigid control of advertising on these highways. Important as this is, there are other, more far-reaching standards to be stated and supported, and it is high time that they were.

What happens when a strip of freeway is put into the pattern of city living? The pattern is disrupted not only by the loss of light and the deepening shadow (about which the design professions can get quite stirred up, and rightly so, because this is the beginning of blight); it is also upset by a somewhat slower process of concentration near the points of access to and from the freeway; and in between the chill of blight finds an entering wedge. Blight and urban development have long been proper concerns of architecture, but it was easy to see their effect on the practice of architecture; the conditions were too visible to ignore.

Offhand, highways seem to be problems more for the engineer than the architect — and perhaps that explains architecture's apathy up to now. Highway construction is the province of the highway engineer. So are the accumulation of data on the statistics of traffic and the prediction of traffic needs. But in these essentials of good highways, design, which interprets the requirements of commodity and firmness so as to provide the delight without which the human soul atrophies, must not be forgotten. But it will be — unless there is demand that it be an indispensable and intrinsic part of the highway program.

The highway program carries with it on the grand scale the potentials for blight and the resultant, and expensive, eventual need for redevelopment. Neither of these potentials, however, need be inevitable. But if they are to be prevented from being built into the highway program, someone must care, someone must speak loudly, someone must point out the dangers. Why shouldn't this be the challenge to architecture? Why isn't this the responsibility of architecture? When has there been, since the advent of the machine, as big a challenge to design?

This is regional planning as well as city planning; this is the kind of planning architects have longed for, wistfully dreamed of, hopelessly despaired of doing. The buildings that will result from the new growth that is inevitable along the 41,000 miles of new highway will be built in the context of many buildings, not as isolated structures. Who cares how these new concentrations of buildings will look, what effect they will have on the communities of which they will someday be a part, what relation they will have to the land, the region, the nation? Who cares about the effect of the concrete band run ruthlessly through the cities that — for better or worse — architects have helped to make? Who should care more than architects?

Do you?

E.K.T.





Windy, hot and barren hills are site (1) of new campus being built on "pay-as-you-go" policy. Covered stair and walk (2) connect first two buildings—humanities, right, and natural sciences, left. Broken planes of roof contrast with unbroken sweep of surrounding hills. Terrain, budget, earthquake fault and winds conditioned master planning, design (3) of humanities (left) and natural sciences (right) buildings. Wide sky-lighted corridor (4), skillful use of materials belie tight budgetary factors

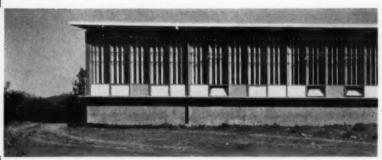




WEST CONTRA COSTA JUNIOR COLLEGE

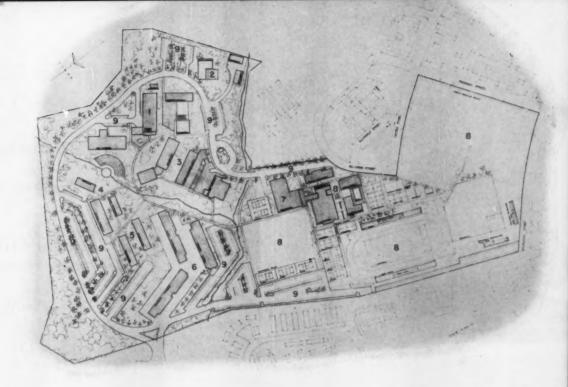
SAN PABLO, CALIFORNIA

California's junior college system is an essential supplement to its many state and technical colleges and its two large universities. One unit in this system is West Contra Costa Junior College. Its 2500 students, both boys and girls, come from the industrial communities along the northeast shore of San Francisco Bay, and its curriculum, directed toward training them for work in these local industries, includes academic.



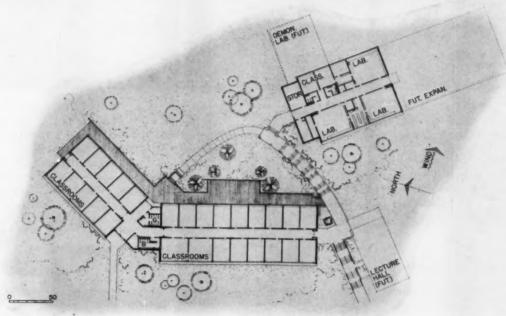
shop and athletic work. Despite an exceedingly limited budget which required obvious simplicity of detail and materials, and a site restricted by steep hills at one side and private property on the other, the amenities of design as well as the necessities for education have been provided in the two buildings so far completed (humanities and natural sciences, shown here) and in the master plan for overall development of the campus. The campus, in the barren hills above the towns of San Pablo and Richmond, is bisected by a creek believed to be an earthquake fault. Because of the fault, all buildings are limited to one story in height; because of the character of the terrain, orientation of the first two buildings had to be east-west, a difficult solution at best but particularly on these treeless, windy slopes. Roof overhangs and inside blinds help to mitigate glare. Architects (master plan, humanities and natural science buildings): John Lyon Reid and Partners.

WESTERN SECTION







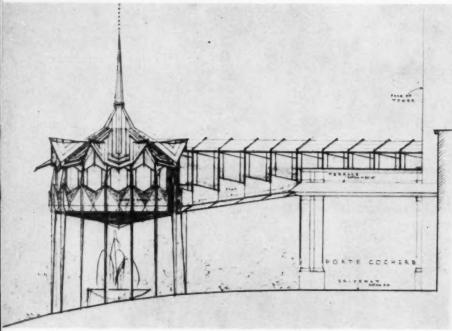


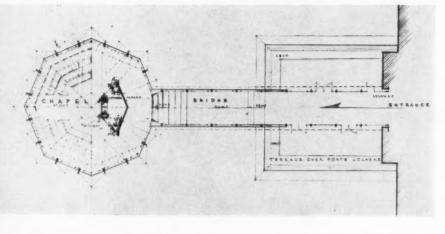
Sciences
 Home Economics
 Humanities;
 Library;
 Administration

Engineering
 Education and Trades
 Auditorium
 Physical Education
 Parking

48-3







WRIGHT DESIGNS "WEDDING CHAPEL IN SKY"

This "gay little place with a sprightly spirit" - Frank Lloyd Wright's own description of it - is a wedding chapel to be built at the Claremont Hotel in the Berkeley, Calif. hills. From seven of its eight glass-enclosed sides, the chapel provides a panoramic view of San Francisco Bay as well as a view over the hotel's extensive gardens. The glassenclosed ramp which connects it with the hotel's main lobby leads to a chapel of unorthodox design which eliminated the traditional wedding processional past the 60 seated guests; instead, bride and groom, entering the chapel by the ramp, will approach each other from opposite sides of the centrally-located, sky-lighted platform. The chapel's roof line echoes the many dormered roof of the hotel's slightly-English architecture.

The Union Oil Building, Los Angeles, California

Designed by Pereira & Luckman, Architects

Built by Del E. Webb Construction Co.

Interior-WEBERWALL by Weber



Architects Pereira & Luckman have chosen an all WeberWall interior to complement the exciting progressive exterior of their new Union Oil Building in Los Angeles. Both the designers and the owners feel that a WeberWall interior will give them the ultimate in beauty while providing for maximum flexibility.

Over two and one half miles of movable WeberWall partitions will be used in the new building. Executive

offices will be panelled in beautiful Walnut and Korina. Other offices and corridors will use a durable vinylcovered partition.

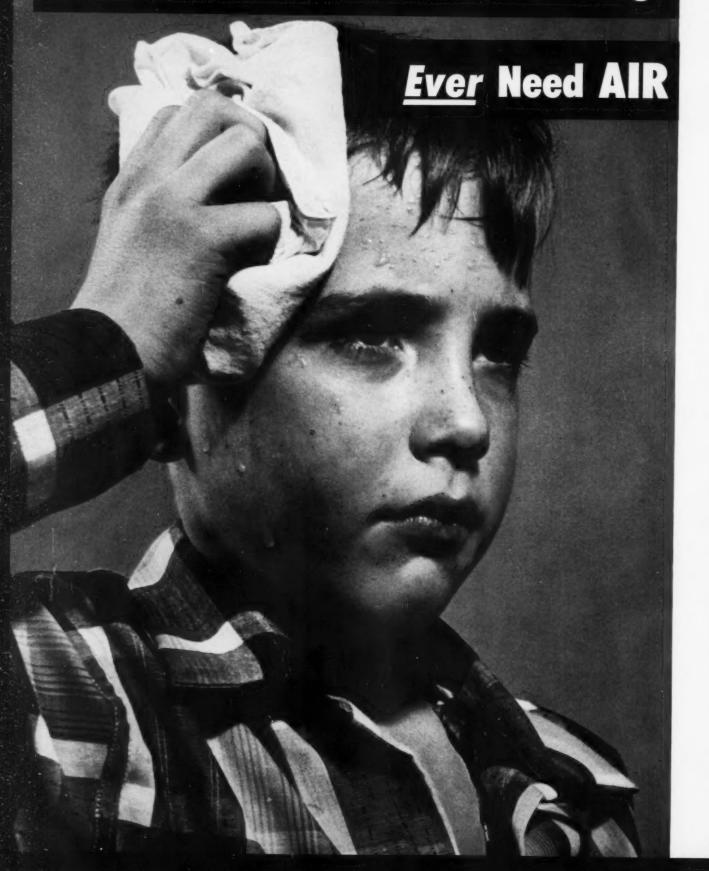
WeberWall is available in an endless variety of materials and finishes. If you are planning new offices write or call Weber for our complete brochure, "Planned for the Future".

WEBERWALL INTERIORS HAVE THE FUTURE BUILT-IN



is a division of Weber Showcase & Fixture Co., Inc., Los Angeles

5700 Avalon Blvd., Los Angeles 11, Calif. 2265 Palou Ave., San Francisco 24, Calif. Will The School You Are Planning





Plan with the Herman Nelson *Americal*INSTALL IT *NOW*—AIR CONDITION *LATER*

Nearly every school would benefit from air conditioning now—as have offices, theaters, hospitals and homes. Unfortunately, the money to provide it isn't always in the current school budget. AMERVENT, the year 'round unit ventilator built especially for schools in Mild Climate Areas, solves that problem.

These units can be installed now so that the school enjoys all the usual benefits of famous Herman Nelson AMERVENTS—heating, ventilating and natural cooling (with outside air). Only the addition of a chiller in the boiler room is needed for complete hot weather air conditioning. It can be provided initially or at any future time. When it is wanted, air conditioning can be secured without disruption—without expensive alterations.

HOW THE SYSTEM WORKS

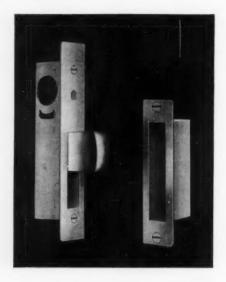
AMERVENT units provide individual temperature control for each room, automatically. Most of the year they provide heat, ventilation, or natural cooling (with outside air) as the room requires. When a chiller is installed, AMERVENT units switch automatically to mechanical cooling during hot weather. Chilled water circulates in the same piping that carries hot water during cold weather. The cost is far less than separate heating and air conditioning systems—both for installation and operation.

Would you like more information? Send today for the illustrated, fact-filled AMERVENT bulletin. Just write to Herman Nelson Unit Ventilator Products, American Air Filter Company, Inc., Louisville 8, Kentucky.



ANY FUEL, ANY CLIMATE—There is a Herman Nelson Unit Specifically

Designed to Give You More Classroom Comfort Per Dollar





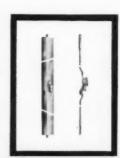
Maximum Security Narrow Stile Locking Devices

For New or Replacement Installations

Whether you specify, install, or sell narrow stile locking devices, you can be confident that Adams-Rite offers the utmost in design, construction, simplicity and safety. Check these advanced ideas that insure top performance and lasting customer satisfaction:

Illustrated above - Maximum Security 1850 Deadlock:

This is the unit that provides Maximum Security for modern narrow stile swinging glass doors. The pivoted bolt actually bridges the opening with a bar of steel, retaining as much bolt within the lock stile as is projected. Its protection is so great that forced entry is impossible without destruction of the door itself.



MS 1849 Two-Point Door Bolt:

The modern method for locking the inactive door of a pair of narrow stile doors. Top and bottom bolts are locked or unlocked by natural operation of an attractive turn conveniently located on the inside surface. Positive deadlock of both doors is automatically provided when cylinder deadlock is thrown.



970 Minimum Backset Deadlock:

This unit provides economical deadlocking for rigid narrow stile swinging doors. Like all Adams-Rite narrow stile locks, the 970 Series operates with standard mortise type cylinders of any make.



1848 Deadlock for Narrow Stile Sliding Glass Doors:

Every sliding glass door deserves the same protection demanded of any other exterior door. The 1848 gives security with an adjustable heavy hook type bolt with which turn and cylinder controls are used. For added safety, the bolt collapses if the door is accidentally shut while bolt is projected.



1450 Deadlocking Latch:

Traffic control is made possible in a narrow stile swinging door entrance by use of the 1450 Series Deadlocking Latch. Two-way traffic flow or restricted entrance is achieved by a simple selector. Ideal for any public area with a closing-hour problem, such as banks, markets, apartment houses, etc. It satisfies building and safety regulations.



1340 Series, Deadlock and Latch:

Combination deadlock and latch for narrow stile swinging doors. A simple selector changes the unit from free swinging to latch action. The positive latch action helps prevent air losses when temperature control systems are used.



tions and information on request. Specify, Sell, Install the Finest

ADAMS-RITE

540 West Chevy Chase Drive, Glendale 4, California · Dept. AR-57

Specialists in Narrow Stile Locking Devices

Another Soulé First

SOULÉ STEEL STUD

speeds erection installation of pipe and conduit

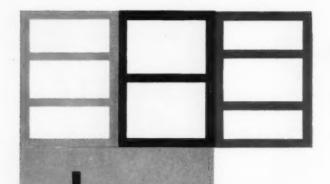
This time-saving and cost-cutting steel stud design was pioneered and perfected by Soulé. It features wide web openings for faster installation of pipe and conduit. The Soulé design also makes the stud easier to handle on the job—hand cutting is faster, speeding erection. Soulé steel stud is available in 2", 21/4", 31/4", 4", and 6" widths. Call your nearest Soulé office for complete specifications and details.

SOULÉ STEEL COMPANY

San Francisco 1750 Army Street, VAlencia 4-4141
Les Angeles 6200 Wilmington Avenue, LUdlaw 5-0911
San Diego 1975 Fifth Avenue, BElmont 2-1071
Pertland 2630 N.W. St. Helens Road, CApitol 3-5154
Seattle 4100 West Marginal Way, HOlly 3600
Spokane East 41 Gray Ave., Riverside 7-8063
Phoenix 2026 South 11th Avenue, Alpine 3-3178
Salt Lake City 220 Greyhound Bidg., EMpire 3-7728



4194



NEW soulé series 900W MATERIALLY

Snap-on glazing bead, for truly an all-aluminum window.

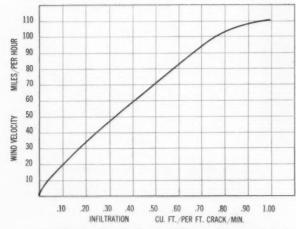
Metal-to-metal contact, for added protection against infiltration.

Integral weather-stripping, will not pull off, provides positive protection.

Tubular ventilator sections for strength and rigidity, freedom to design greater glass areas.

Alumilite finish from our own plant, enhances the beauty, keeps windows new-looking longer.

Where putty glazing is desired, Soulé putty lock eliminates spalling, makes neater putty glazing.



Air Infiltration Test, Soulé series 900W weather-stripped aluminum windows with vinyl 939-B gasket. Air infiltration measured with Ellison's Inclined Draft Gauge. Test made on a 4'-0" by 2'-8" ventilator.

weather-stripped aluminum windows— REDUCE HEAT LOSS, DUST AND AIR INFILTRATION

help cut air conditioning costs!

New Soulé series 900W (weather-stripped) aluminum windows are proved in rugged hurricane and cyclone tests to exceed all industry specifications for performance. Series 900W are guaranteed not to exceed 0.5 cubic foot of air infiltration per minute per lineal foot of crack at 25 mph (in actual tests, series 900W windows showed only 0.14 cubic foot of air infiltration per minute per lineal foot of crack at 25 mph!). Wind velocities up to 120 mph in maximum design sizes have been experienced with proportionate resistance to infiltration. Proved performance, along with manufacture and installation by Soulé, are important reasons why new Soulé series 900W are the standard of quality in weather-stripped aluminum windows.

Call your nearest Soulé office or see



Sweet's for details and specifications.



SOULÉ STEEL COMPANY

San Francisco 1750 Army Street, VAlencia 4-4141 • Los Angeles 6200 Wilmington Avenue, LUdlow 5-0911
San Diego 1975 Fifth Avenue, BElmont 2-1071 • Portland 2630 N.W. St. Helens Road, CApitol 3-5154
Seattle 4100 West Marginal Way, HOlly 3600 • Spokane East 41 Gray Avenue, Riverside 7-8063
Phoenix 2026 South 11th Avenue, Alpine 3-3178 • Salt Lake City 220 Greyhound Building, EMpire 3-7728
Dallas 528 Interurban Building, Riverside 1-5225

4130

WESTERN ARCHITECTS WIN AWARDS FOR CHURCH DESIGN

Western architects took nine of 13 awards and mentions given in this year's Church Architectural Guild's national competition. As usual, the jury's selection formed an interesting — if sometimes controversial — cross section of opinion on church architecture. Entries were judged on "derivation of architectural concept from an idea; strength of idea; architect's handling of purpose, use and structure in creating space with religious character; and whether development was consistent enough to permeate whole work."







ober! Mor

Class 2: First place, St. Elizabeth's Episcopal, Seahurst, Wash., Durham, Anderson and Freed, architects (1)

Class 2: Honorable mention, Eastshore Unitarian, Bellevue, Wash., Bassetti & Morse, architects (2); Chapel of the Holy Cross, Sedona, Ariz., Anshen and Allen, architects (3); Prince of Peace Lutheran, Austin, Texas, Eugene Wukasch, architect and engineer (4)

Class 3: Honorable mention, Religious Education building, Neighborhood Church, Pasadena, Calif., Smith & Williams, architects (5); St. James Presbyterian church, Bellingham, Wash., Durham, Anderson and Freed, architects (6)

Other Western winners: class 1: Honorable mention, First Congregational, Palo Alto, Calif., Bolton White and Jack Hermann, architects; Claremont Congregational, Theodore Criley, architect; Class 3: Third place, First Presbyterian, Burlingame, Calif., Alfred W. Johnson, architect









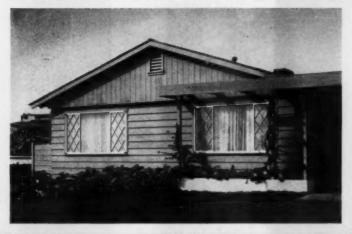
... Shulmon



Art Hupy

Satisfaction Guaranteed!

BOURNE DUAL-FIN. ALUMINUM WINDOWS



BOURNE DIAMOND PATTERN WINDOWS FOR DISTINCTIVE CHARM

Here's old-world beauty with a feeling of warm hospitality! Bourne Diamond Pattern Windows offer all the famous Bourne Dual-Fin installation advantages. Their antique effect goes with any modern architectural style. Engineered and produced to highest quality standards in Bourne's own modern factory, for western living at its finest. Bourne Diamond Pattern Windows, like all Bourne Products, are fully guaranteed.



FREE MANUAL OF WINDOW INSTALLATION

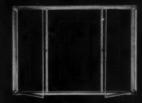
Profusely illustrated, with size tables and vent area data, the new 16-page Bourne catalog contains useful installation details and other valuable information. A postal card with your name and address will bring your copy promptly.

DEALERS: ASK ABOUT OUR PROFITABLE FRANCHISE!



BOURNE PRODUCTS, INC., DEPT. AR, EL CAJON, CALIFORNIA

FOUR POPULAR STYLES



Bourne Aluminum

Casements in a wide range
of stock sizes.



Bourne Aluminum Jalousies for windows breezeways, porches.

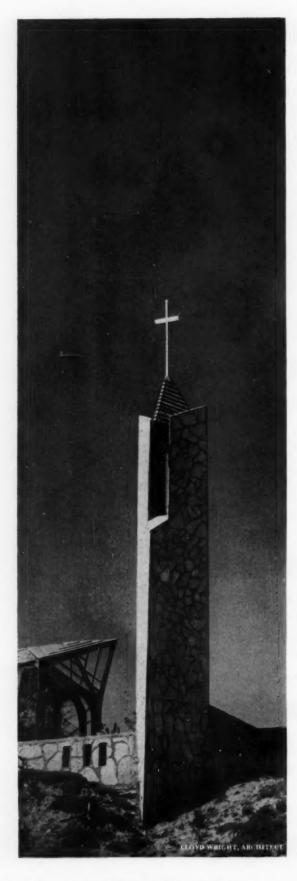


Bourne Town & Country Windows for modern ranch house styling.

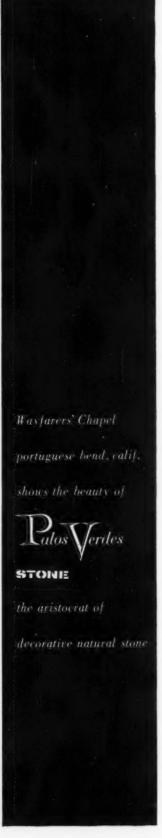


Bourne Diamond Patterns bring Old-World charm for modern homes.

PROMPT SERVICE ON SPECIAL-ORDER CUSTOM DESIGNS



stone . . . distinctive Palos Verdes stone . . . speaks in its very nature of that which endures. Whether your church design be modern or traditional, the distinctive textures and soft neutral colors of Palos Verdes Stone ... off-white, grey, buff ... give perfect expression to your proudest designs for buttress, wall or soaring spire ... always with the lasting dignity befitting a religious edifice. For fully illustrated information, write to: Palos Verdes Stone Department, Great Lakes Carbon Corp., 612 So. Flower St., Los Angeles 17, Calif.



"Babe, that there's what I call a SOUND FOUNDATION!" observed Paul Bunyan as he delicately lifted up the old house with his pinkie. The Blue Ox grunted. "See them mudsills, girders an' posts? Been settin' there 25 years in the damp an' dark, supportin' 50,000 pounds o' house—an' not a trace o' rot or termites anywhere. Sound as the day they was cut...Babe, sure as you're true blue, that's BAXCO Pressure Treated Foundation Lumber *."



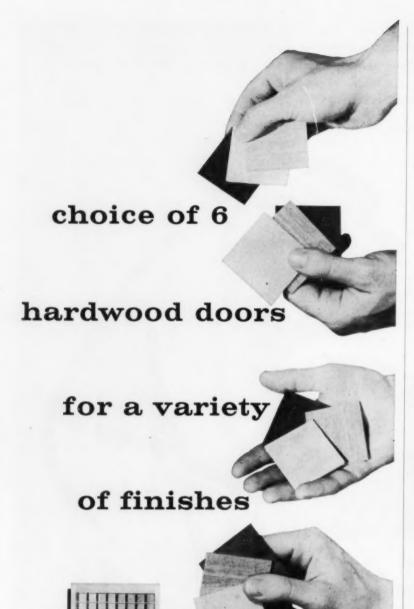
BAXCO pressure treated FOUNDATION LUMBER

* What else, Paul? For the past 25 years BAXCO pressure treated Foundation Lumber has been safeguarding thousands of Western homes against termites and wood-rot. Pressure treatment locks in the chemical protection for keeps...And when you figure, Paul, that just



one repair bill, caused by rot or termites, can run into hundreds of dollars—well, why take a chance? Especially since BAXCO Pressure Treated Foundation Lumber usually adds less than one half of 1% to your total building cost ... Write today for free booklet.

J. H. BAXTER & CO. 120 Montgomery Street, San Francisco 4, California



MADE IN CALIFORNIA with the pride of manufacture characteristic of all Packard-Bell products. In choice of walnut, birch, rotary mahogany, ash, ribbon mahogany, and white oak with our deluxe solid or hollow core doors. Fully guaranteed as set forth in the standard Door Guarantee of the National Woodwork Manufacturers Assn.

The Bellwood Company of California 533 W. Collins Ave., Orange, Calif.

THE METROPOLITAN WEST

COLORADO

AF Academy Needs More Funds

An additional \$22,000,000 will be needed to complete the Air Force Academy at Colorado Springs, says Secretary of the Air Force Donald Quarles. The extra funds are needed to provide some facilities not in the original plans as well as to make up for rising construction costs. Included in these new funds, if approved, will be the chapel, airmen's barracks, hangar and field maintenance complex, nurses' quarters, and various other necessary facilities.

Already some \$85,000,000 worth of contracts have been let. Contracts have been awarded on all buildings necessary for opening of the academy in the fall of 1958. However, the cadet social center, for which bids are due in July, will probably not be ready by that date. The three-story building will provide a 3000 seat theater, two ballrooms, a reception room, snack bar, and game room.

Construction was held up during the past year by ten days of bad weather but summer construction schedules are expected to make up for this delay.

A Post Office Annex at Last

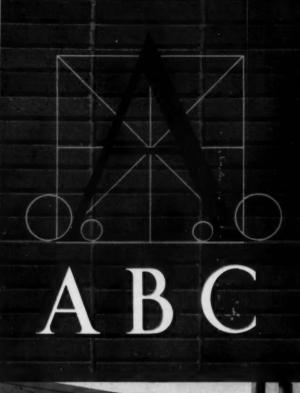
Denver's longed-for, much postponed new post office annex may become a reality after all, according to Colorado Senator John Carroll, who recently announced that the "logjam has been broken" and construction might start in a few months.

The project, originally scheduled to go out for bids on March 1, was one of the many postponed "indefinitely" when the government suspended its lease-purchase program for public buildings. A site had been chosen for the much-needed annex and some preliminary work had already been done on it.

Also affected by the suspension of the program were federal courthouses in Denver and Los Angeles; a federal office building and courthouse in San Francisco; and new post offices in a number of Western cities including Seattle. No word on their future has yet come from Washington.

Should Denver Get the Arch?

Quite a stir has been raised in Denver as a result of the proposal of the Honor the Bible Association to erect a monument in the city's Civic Center. Denver's Art Commission has objected to the monument on the grounds that church



of Distinction

Letters of classic simplicity ... bold block letters contemporary letters with microra. Sowing time ... all honderafted with infinite while A. F. Frayer Company offices a variety of times alphabets and error butter efficient formation and court in all sizes, plus countries custom letter distress fixten large fetters requiring special fabrication are cut and formed from metal plate. All Bayer letters available in bronze, aluminum, brans, nichelasilyer and statelines steed in a variety of the finishes.









TABLETS, PLAQUES AND TRADEMARKS

A. J. Bayer plaques, tablets and trademarks are cast in virgin metals using fine French sand molds for perfection of form and detail.

SIGNS AND SYMBOLS

by A. J. Bayer Company

For quality identification as an integral part of building design, A. J. Bayer Company fabricates three-dimensional signs and symbols of every description to harmonize with all surface textures and to enhance the beauty of any style of architecture. Bayer excellence in metal art, materials and workmanship is backed by more than half a century of experience in quality metal work.

Each sign and symbol created or reproduced by A. J. Bayer Company is distinguished by exacting craftsmanship and perfection of detail. Unusual or stylized symbols and trade



names are fabricated to customer design and specifications...hand finished and guaranteed to be free of distortion, sinkages, waves and open joints. For beauty, dignity and permanence specify quality architectural metal letters in virgin metals by A. J. Bayer Company. Write today for new "Letters, Signs and Symbols Kit" and illustrated catalog for architects.

A. J. BAYER COMPANY



CALIFORNIA

2300 EAST SLAUSON AVE. III

OAKLAND 6









AUG ENVEANORS & DOORS

CURTAIN WALLS

THE METROPOLITAN WEST

(Continued from page 48-16)

and state should be kept separate, and was backed in this stand by the mayor. Since the art commission has authority under the city's charter to refuse permission for its construction, its objection implies a doubtful future for the project.

The proposed design, the work of architectural designer John L. Thompson and sculptor Wayne Hill, consists of a paraboloid arch not unlike the one designed some years ago for St. Louis. The proposed Bible arch, however,

would have sculpture in relief along the outside plane of the arcs which formed the parabola.

Despite the opposition, a bill was introduced into the state senate which would authorize approval of the design by the governor and the superintendent of buildings.

OREGON

Broadway Steel Bridge Site for ER

At long last, a site has been definitely chosen for the Exposition-Recreation Center for which Portlanders voted an \$8,000,000 bond issue almost three years ago. The site selection came very shortly after the Exposition-Recreation Commission had announced that Skidmore, Owings & Merrill had been chosen as architects for the project.

The tract at the East side of the Broadway Steel bridge is one of two which were being considered for the center after the referendum last year set the East side of the Willamette River as the location of the center. The other was at Buckman field, a piece of vacant land within walking distance of Lloyd Center, a large shopping, hotel, restaurant and office center now under development. This site would be, however, a difficult one on which to achieve unity of organization as Benson High School and a number of streets divide it into separate tracts.

The Broadway Steel bridge site won out because of its proximity to center of population — 93 per cent of Portland's population live within five miles of the area — and easy accessibility both by automobile and by surface transit lines. It had the further advantage of being eligible for redevelopment with federal funds. A survey of the area, preparatory to making application for federal funds for this renewal work, is expected to get under way shortly.

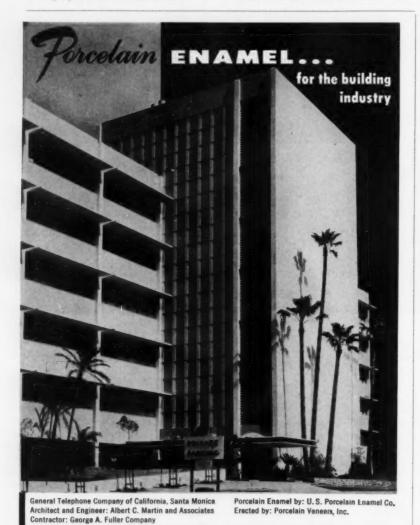
In order to clear the site for development, a good many houses will have to be torn down and a fair number of families will have to be relocated. Included in the area to be cleared are a church, a three-story apartment building, several small stores and office buildings, private houses and rooming houses, most of them over 40 years old.

After all the hard words that had been said about the Center's site, and the angry recriminations against members of the Commission, the final decision was made by unanimous vote. The Center's opening date was optimistically set for two years hence, in time for use in connection with a projected state centennial celebration.

Portland Builds

Portland's famous Equitable Building, designed by Pietro Belluschi not long before he left the city to become dean of architecture and planning at M.I.T., is to have an addition along its Sixth Avenue side. The new structure, for which Belluschi's successors, Skidmore, Owings & Merrill, are architects, will add four stories to an existing two-story part of the building. The same aluminum and heat-resisting glass exterior

(Continued on page 48-20)



is effectively blended with other permanent materials—offering lasting richness in any color and virtually any finish. INVESTIGATE THE ADVANTAGES of Architectural Porcelain Enamel.

Write TODAY, for latest information and Color Chart!

48 - 18

ARCHITECTURAL DIVISION
PORCELAIN ENAMEL PUBLICITY BUREAU
P. O. BOX 186 - EAST PASADENA STATION - PASADENA 8. CALIFORNIA

1444 WEBSTER STREET . ROOM 4 . OAKLAND 12. CALIFORNIA

ARCHITECTURAL RECORD JUNE 1957

add up Long, trouble-free life \$ Smoot-Holman's lighting Reduced eye fatigue \$ Increased production \$ Greater precision More attractive merchandise . Increased sales Let a Smoot-Holman lighting expert prove that good lighting costs you nothing. Call the

THE METROPOLITAN WEST

(Continued from page 48-18)

walls which distinguish the original building will be used on the addition.

Just a few blocks away, the Benson Hotel is going to build a 200-room, 12to-15-story addition on the site of the adjoining building (the old Oregon Hotel) which is to be torn down. The Benson will then have 400 rooms, at last a really big hotel in the heart of downtown Portland.

The new building's appearance will be "somewhat more modern" than the present Benson but it will be "no less luxurious," according to F. A. Dupar, Western Hotels secretary.

CALIFORNIA

Nine Called, One Chosen

Los Angeles' Coliseum Commission, after talking to nine architectural firms, made its selection: Welton Becket & Associates. The job for which Becket was selected is the big, new, oftentalked-of sports arena, now due for an opening, by architect Becket's tentative estimate, in the fall of 1958.

The Coliseum has been beset by woes since its inception, but not by lack of desire for the facilities it will provide.

Changes in management, spats between commission members at meetings, a construction bid based on the first designs (made by another architectural firm) which came in at almost twice the available funds, expanded ideas of what facilities were essential and rising construction costs added difficulties to frustration.

In addition, there was some concern that an auditorium (for which there is a similar commission, now hard at work on surveys, site appraisals and revenue estimates) might offer too much competition to the arena - and the auditorium had powerful support in cultural circles. But a survey by Ebasco, completed early this year, confirmed results of an Arthur D. Little, Inc., survey previously made: Los Angeles could well absorb and use facilities for both cultural and sports events.

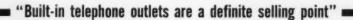
The Old Order Passing

Big plans for big cities in the West's biggest state - if they are realized will make over blighted (or undeveloped) areas of Los Angeles, San Francisco and Sacramento. But between plans and reality is a gulf that can only be breached by public acceptance of plans, federal assistance to their execution and private financing for their construction. However, the urban renewers have time on their side; as each year passes, the old areas grow older, the blight goes deeper.

Los Angeles, pushed by its constantly growing population as well as the blight in its Bunker Hill section of town, is polishing off plans for a pilot redevelopment project in that area. The initial work will be done on a two-block section bounded by Hill, Olive, Second and Fourth streets. Architects and planners now envision multi-story apartments, a shopping center, and moving sidewalks along Hill street to speed residents of the new Bunker Hill to their jobs and shopping in the main business district of Los Angeles.

San Francisco's Diamond Heights project - a "redevelopment" of unimproved land on a barren hill south of Twin Peaks whose original development was frustrated by the gridiron street platting to which it was subjected 50 or more years ago - has reached the stage of condemnation. Almost half the lots on the 326-acre hill have been negotiated for; the rest will either be sold by their owners or acquired through the present suit. After grading and utilities

(Continued on page 48-24)





Ask any leading architect or builder -he'll rate Telephone Planning among the basic features of the well-built home. "It's a definite selling point," says Mr. MacLeod, "one that buyers look for." And he's right. Concealed wiring and built-in outlets are features buyers recognize as marks of quality homes. That's why Telephone Planning pays off in increased value, a betterbuilt home and a satisfied buyer.

Pacific Telephone

We'll be glad to help you plan builtin telephone facilities. Just call our business office and ask for our free Architects and Builders Service.

It pays to include Telephone Planning in every home you build!

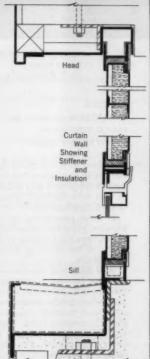


The exterior face of the Fentron panel is porcelain enamel over 16-gauge USS Vitrenamel Sheet. Interior is 14-gauge USS Cold Rolled Sheet with insulation sandwiched between. "u" factor is .104. These panels are effective as covers for spandrels and columns, and as mullions complete with windows.

Prefab steel walls hold down building costs

UP, up, up go the costs of new building construction. One bright spot in this picture is the more economical building method using factory-built wall panels of stainless or porcelain enamel steel. These curtain walls are fast to erect, provide more usable floor space, permit earlier occupancy and sharply reduce maintenance. For the architect, this versatile and economical exterior treatment offers floor-to-floor panels that can be designed to harmonize with any architectural expression.

Here in the West, a number of companies have developed their versions of packaged steel walls fabricated from United States Steel Sheets. These curtain wall systems are figuring prominently in recent Western construction... from skyscrapers on down to one-story industrial buildings. In Bellevue, Washington, for example, the new Puget Sound Power & Light Company building (above) used curtain wall panels fabricated and erected by Fentron Industries, Inc., Seattle, Washington.



Only Steel can do so many jobs so well

United States Steel Corporation • Columbia-Geneva Steel Division 120 Montgomery Street, San Francisco 6



UNITED STATES STEEL



HENRY W. OPPEL Brewmaster, S. F. Brewing Co.

"GLAZED STRUCTURAL WALLS MAKE BREWERY SANITATION EASY"

Burgermeister's vital problem of controlled sanitation has been greatly simplified and reduced in cost with walls of Western Glazed Structural Units.

In three remodeling and expansion programs since 1952, the brewery has installed 37,620 sq. ft. of this gleaming ceramic finished tile.

Wall and finish are one—no framing, lathing, plastering or finishing required. Hard, smooth surface resists wear, stains, odors; never needs painting. Clear glaze, plus 12 attractive colors. Standardized sizes and shapes for every requirement. For shape chart and specification details write to Kraftile Co., Niles, Calif.; or Washington Brick & Lime Co., Spokane, Washington; members of

WESTERN STRUCTURAL TILE INSTITUTE

WASTE SPACE

The Fine Italian Hand

Because Pier Luigi Nervi speaks no English, it was necessary to have interpreters render his several recent talks in the Bay Area into English. Fortunately, San Francisco had two well-qualified translators: California-born Italian-speaking architect Mario Ciampi, and Myron Goldsmith, once a Nervi student at the University of Rome and now a structural engineer, provided the non-Italian parts of the audience with clear translations.

In introducing Dr. Nervi, Mario Ciampi attributed the quotation "Give me a big enough lever and I'll move the world" to his ancestral compatriot, Leonardo da Vinci. He had hardly spoken the words when a voice from the audience said "Ah, but that was Archimedes!" After a stunned moment, the audience broke into laughter - and so did Mr. Ciampi. Enjoying the interruption as much - or more - than anyone else, and fazed not one bit by its unusualness, he went on with his introduction. Not until later did he learn that the voice belonged to Dr. Emilio Segre, another Italian, as distinguished in his field of nuclear physics (among other things, he was one of the discoverers of the anti-proton) as Dr. Nervi in his.

Rich Diet

One month it was Nervi, the next, Wright. Exhilarating, exasperating, extracurricular — and indispensable to prick the mind from complacency.

FLW was in the Bay area to inaugurate the Bernard Maybeck lectures at the University of California, a series which will also bring to Berkeley Jose Sert (September 1957) and Lewis Mumford (spring, 1958). In addition to this public lecture, he led a student seminar at the "Ark" and a discussion group for practicing architects—all in three days. (The discussion group for architects, originally scheduled to be a three-hour session—at \$20 per registrant, a stiff fee for architects—was later shortened by one hour and the fee cut in half.)

The habit of a lifetime was too much even for the best intentions of mellowness. Scarcely had his plane touched ground when Wright scored Bay Area architecture as "chiefly distinguished by shanty buildings—thin, cheaplooking things that look temporary"; announced that he "wasn't impressed with Maybeck's architecture, though I've only seen his Palace of Fine Arts"; berated Bay Area residents for "not

knowing how to live with the Bay—on barges anchored off shore"; and denounced most architecture nowadays as "19th century, dehumanized, without fragrance, sidewalk-happy."

In a rambling talk dealing mainly with his favorite subject, organic architecture, FLW went back to the matter of fragrance in architecture — a quality he says "committee-mind architecture" can't have. The latter is "hard, lean, urbanistic," and it can be "built by the mile"; it "has no soul"; it is "content with the cliché." Architecture needs fragrance, he said, because it is "the great expression of humanity."

What stands in the way of the culture we should have, he says, is Education: "it has found a cliché and it's just too easy to follow it. Instead of teaching to analyze, it teaches to compare and to keep on comparing, and so we don't learn. We just make shift — we are expedient (yet pretend we are practical)."

For those who have floundered in defining "organic architecture," he threw out a few clues: Jefferson's serpentine wall and the tail on Davy Crockett's coonskin cap.

Mellowing somewhat, perhaps under the impact of a jam-crammed Wheeler Hall (with an overflow crowd listening by p.a. system in a downstairs room) FLW poured balm on the wounds of Maybeck admirers by saying that he is "a fine old man who has lived up to the Declaration of Independence," and then went so far as to say that he was "willing to take back all the bad things I said about some of your big people (at the University) — what good did it do?"

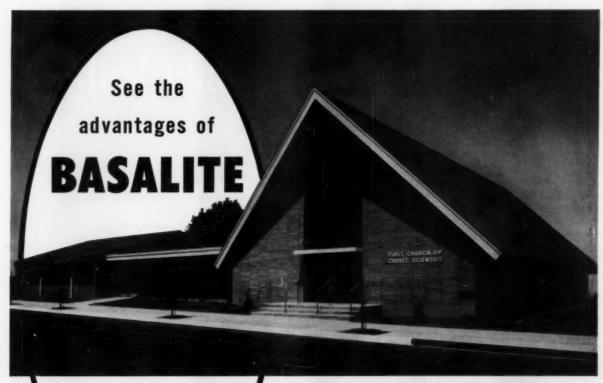
"The only way is to build, build, build—even if it costs more. And it will. If anybody builds and it doesn't cost more—he shouldn't build! If you reply to that that your buildings are cheap and that you can do work cheap, then you're not doing what America wants. Our genius is to want only the best."

He ended the talk with a quotation from Lao-Tse:

"The reality of a building does not consist in roof and walls but in the space within to be lived in."

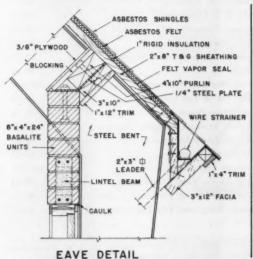
This was what I thought I had in Unity Temple, he said; "but Lao-Tse had it, 2500 years before! And then I thought, he had it but he didn't build it. I'm building it."

It was a happy note on which to end—reminding his audience of the thing that always will be great about Wright, the genius of his young days. E.K.T.



for CHURCH CONSTRUCTION

FIRST CHURCH OF CHRIST, SCIENTIST, Napa, California Architects: Corlett and Spackman, A.I.A., San Francisco Structural Engineer: John M. Sardis & Associates General Contractor: J. H. Vienop, Napa Masonry Contractor: Jorgensen Masonry Contractors, Oakland and Napa



Sheer textured surfaces of BASALITE, a soft "desert beige" color, set the tone for the Church. Units are $8'' \times 4'' \times 24'' -$ set in attractive stock bond pattern.

Here is strength, beauty, versatility...all obtained at reasonable cost with BASALITE lightweight concrete masonry units.* These advantages are inherent in every BASALITE unit — precision-made in hundreds of shapes and sizes, enabling Architects to achieve striking effects.

BASALITE provides suitable massiveness for church facades, while its flexibility lends a harmonious modern feeling.

The inherent insulative qualities of the lightweight aggregate afford remarkable temperature control, and masonry unit's open texture provides excellent acoustics.

Specify what's best for your church project—design and build with BASALITE!

Write today for complete details.

*Made with Basalite lightweight expanded shale aggregate concrete.



BASALT ROCK CO., INC.

NAPA, CALIFORNIA MEMBER EXPANDED SHALE, CLAY & SLATE INSTITUTE

PROFESSIONAL NEWS

Solar House Competition

An international competition for design of a house "particularly adapted to living with the sun" in the Southwest, is in progress under sponsorship of the Association for Applied Solar Energy in cooperation with the Phoenix Home Builders. All entries must be in the office of the professional advisor, James M. Hunter, 1126 Spruce Street, Boulder, Colo., by August 15. Contest details are available from Mr. Hunter.

A five-man jury of architects will meet September 14 and 15 to select the winner of the competition prizes. First prize will be \$2500 and a contract to supply architectural service for the actual building of the winning design; there will be additional prizes of \$1500, \$750, and \$500 for the next four places. The competition is not for the design of houses incorporating solar heating or cooling equipment — the Association feels further research is necessary before this can be expected - but is to stimulate ideas for controlling summer sun in the Southwest for maximum economy and efficiency in air conditioning.

The winning design will be built near Phoenix.

Prestressed Concrete Conference

Final plans for the World Conference on Prestressed Concrete to be held July 29-August 2 at the Fairmont Hotel, San Francisco, include papers to be presented by representatives of 15 foreign countries and of this country. Subjects to be covered include materials and techniques, bridge and building design, research, fabrication, design and construction in various countries, and pavements, wharves, dams and piles.

Western engineers T. Y. Lin, Henry Layne, Walter H. Price, president of the American Concrete Institute, G. S. Paxson, A. L. Elliott, H. A. Price, A. H. Brownfield, Charles Peterson, Dean J. W. Kelly of the University of California Department of Engineering, and San Francisco architect Nathaniel Owings will preside at the conference sessions.

In addition to the 30 technical papers to be presented during the conference, preprints of some 28 additional papers will be available at the conference. Prof. T. Y. Lin, University of California, is coordinator for the conference which is being sponsored by the University's Department of Engineering and its Extension Division in cooperation with the Prestressed Concrete Institute, American Concrete Institute, A.I.A., Structural Engineers Association of California, and a number of other engineering groups.

THE METROPOLITAN WEST

(Continued from page 48-20)

installation, private investors will have their day.

Diamond Heights has been "in the works" for nearly 10 years; "Golden Gateway," the newest proposal for redevelopment in San Francisco, is only a few months old. Presented with optimistic predictions that the area north and west of the Ferry Building could be renewed with high-rise apartment and office buildings, light industry and parking garages, with plenty of open space between, this new project now is temporarily shagged in the Board of Supervisors' office while the Supervisors wait for "finished" data on the project. Meantime, property values in the area have soared, according to Nathaniel Owings, whose architectural firm prepared the preliminary plan for the area's redevelopment. What this may mean in the time-table for realization of "Gateway" is anybody's guess right now.

Sacramento's capitol mall redevelopment project - further along than most such ambitious programs - has reached the important capital-development stage.

CALENDAR OF WESTERN EVENTS

- June 1-July 31: "Designer-Craftsmen of the West, 1957," juried exhibition, M. H. DeYoung Memorial Museum, Golden Gate Park, San Francisco
- June 11-13: Western Plant Maintenance and Engineering Show and Conference, Civic Auditorium, San Francisco
- June 20-30: Los Angeles Home Show, Pan Pacific Auditorium, Los Angeles
- July 8-10: American Society of Landscape Architects, 58th annual meeting, Sheraton-Palace Hotel, San Francisco
- July 29-August 2: World Conference on Prestressed Concrete, University of California, Extension Division, and Prestressed Concrete Institute, Fairmont Hotel, San Francisco
- September 5-7: Western Mountain Region Conference, Jackson Lake Lodge, Jackson Hole, Wyo.
- October 2-6: California Council, A.I.A., annual convention, and California-Nevada-Hawaii Regional Council, Hotel del Coronado, Coronado, Calif.
- · October 17-20: Northwest Region, A.I.A., annual conference, Gearhart, Ore.
- October 17-20: California Council of Landscape Architects annual convention, Mark Thomas Inn, Monterey, Calif.
- October 31-November 2: Structural Engineers Association of California annual convention, Hotel del Coronado, Coronado, Calif.

WESTERN SECTION

INDEX TO ADVERTISING

MANUFACTURERS' PRE-FILED CATALOGS

Catalogs of the firms listed below are available in the 1957 Sweet's Catalog Files as follows:

- Architectural File (green)
 Industrial Construction File (blue)
 Light Construction File (vellow)

Western advertising offices: LOS ANGELES, Bob Wettstein, 672 S. Lafayette Park Pl.; PORTLAND, Bob Wettstein, 921 S. W. Washin St.; SAN FRANCISCO, Bob Wettstein, Howard Bldg., 209 Post St. Washington



Lightweight, portable tracing unit is only 17 inches thin

Now you can trace right at the drawing board, and save precious minutes with PORTA-TRACE®—the thin, lightweight tracing box that comes to you.

Simply pick it up . . . place it on your board . . . flick a switch and you're ready —in seconds!

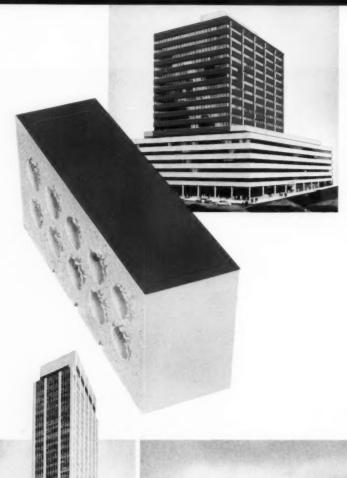
Only 1½ inches deep, PORTA-TRACE can actually be used under the straight edge

of your drafting table! Its flush top permits use with drawings larger than unit itself. Strong Plexiglas top is enclosed by rugged, long-life stainless steel frame. Available in four sizes up to 24" x 36".

Save drafting time and precious space with PORTA-TRACE. Call your local Ozalid representative or write Ozalid, Dept. CC-6, Johnson City, N. Y.



A Division of General Aniline & Film Corporation In Canada: Hughes Owens Company, Ltd., Montreal



Grand Central Building, New York City Architect: William Lescoze Contractor: Diesel Construction Company HANLEY DURAMIC 418 Iris Blue

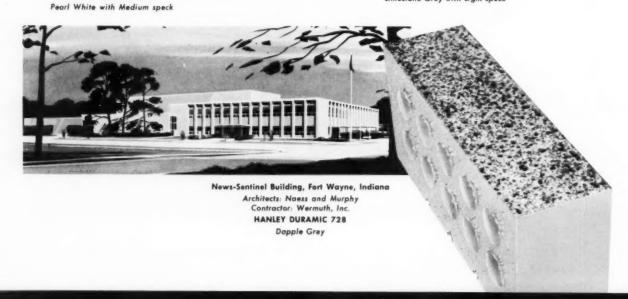
COLOR AND TEXTURE

HANLEY BRICK is the ultimate building material. As the eight buildings pictured here demonstrate . . . Hanley Duramic Brick fulfills the aims of great architects in buildings that are landmarks in this country. Hanley Duramic Brick combines the traditional qualities of brick . . . strength, endurance, ease of handling and adaptability . . . with a broad range of beautiful color and texture that gives full expression to the architect's conception.



HANLEY DURAMIC 725

Metropolitan Hospital, New York City
Architects: Charles B. Myers, Associates, New York City Dept. of Public Works
Contractor: Wilaka Construction Company
HANLEY DURAMIC 623
Limestone Grey with Light speck



WITH HANLEY

Hanley quality is unsurpassed. The superior qualities of Hanley Brick result from two factors: Hanley possesses one of the nation's outstanding deposits of raw materials and Hanley Brick is produced under the most modern quality-control production systems.

Hanley Duramic Brick is the ideal material for buildings of beauty, timelasting endurance, and low maintenance.



Chrysler Building East, New York City Architects: Reinhard, Hofmeister and Walquist Contractor: Turner Censtruction Company HANLEY DURAMIC 824 Oyster Grey with Medium Speck



Daily News Building, New York City Architect: Raymond Hood Contractor: Hegeman and Harris Company HANLEY DURAMIC 791 White Matt finish



The Coliseum, New York City
Architects: Leon and Lionel Levy
General Contractor: George A. Fuller
Company and Walsh Construction
Mason Contractor: John B. Kelly, Inc.,
New York

HANLEY DURAMIC 625 and 770 Limestone Grey, Medium speck and Slate Grey



For further information call the Hanley office nearest you or write for the free architectural file on all Hanley structural clay products.

HANLEY COMPANY INC.

1 Gateway Center . Pittsburgh, Pennsylvania

101 Park Avenue . New York, N. Y.

14976 Schaefer Highway • Detroit, Michigan

USE **american's** SHEET GLASS

in schools for "daylighting with a purpose"



Heathcote Elementary School, Scarsdale, N. Y. Architects: Perkins & Will

Large glass areas providing natural daylight are the primary sources of obtaining good school lighting. Since the amount of daylight varies with climates, it is very important to select the proper glass. If maximum daylighting is desired, use AMERICAN LUSTRAGLASS or LUSTRACRYSTAL which transmits more visible light than any other brand of glass. Where a more controlled daylight is necessary to reduce glare, use AMERICAN LUSTRAGRAY for balanced brightness. In most cases, a planned use of both glare-reducing and clear glass in schools will give maximum quality illumination and protect the

eyes of both students and teachers.

Large glass areas also act as a stimulant to learning, by creating a more spacious and cheerful atmosphere. Glass walls cost less than walls of other building materials and require less maintenance. It will pay you to investigate

Write us today for new four-page catalog, "American's Glass Products for School Glazing." It includes useful tables showing goals for proper daylighting. Get this new catalog for your file, it's free.



For controlled daylighting on any school exposure where glare is a problem, use

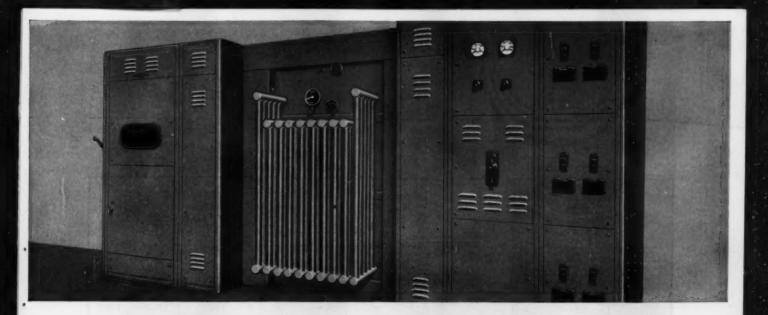
dmerican Lustragray
for balanced brightness

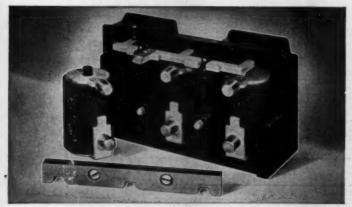


american Consens

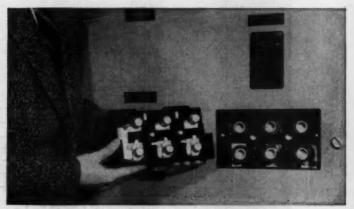
WINDOW Glass COMPANY
PITTSBURGH, PA.

PLANTS: JEANNETTE, PA. . OKMULGEE, OKLA.





Four frame sizes of the 100,000 RMS ampere IC rated "Cordon" current-limiting breakers are now available—100, 225, 400 and 600 amps; 600 volts AC; 250 volts DC.



Mounted in molded cases, the Amp-traps are accessible from the front of the substation for speedy replacement. Consult a BullDag field engineer for complete details.

Now... Unit substations with new "Cordon" current-limiting breakers

Provide greater protection against high short circuits at less initial cost

Now, get the additional protection of this newly developed I-T-E Breaker in BullDog unit substations! "Cordon" current-limiting breakers protect circuits where fault currents may reach 100,000 RMS amperes . . . limit short-circuit currents of high magnitude to a fraction of their possible value. In one compact device they combine the advantages of standard thermal magnetic breakers with current-limiting characteristics of Amp-traps*.

These "Cordon" breakers bring real savings, too, since they can be used where more costly air breakers were once required. Amp-traps are mounted in a molded housing on the load side of the breaker. When any Amp-trap opens, all poles of the breaker open, thereby preventing possible single phasing.

Let a BullDog field engineer give you all the facts . . . show you the many safety and economy features of unit substations and complete BullDog electrical distribution systems.

BullDog Electric Products Company, Detroit 32, Michigan. • A Division of I-T-E Circuit Breaker Company. • Export Division: 13 East 40th St., New York 16, N.Y. In Canada: BullDog Electric Products Company (Canada), Ltd., 80 Clayson Rd., Toronto 15, Ontario.



IF IT'S NEW ... IF IT'S DIFFERENT ... IF IT'S BETTER ... IT'S

BULLDOG

ELECTRIC PRODUCTS COMPANY

A DIVISION OF I-T-E CIRCUIT BREAKER COMPANY

THE RECORD REPORTS: CONSTRUCTION COST INDEXES

Labor and Materials

U. S. average 1926-1929 = 100

Presented by Clyde Shute, manager, Statistical and Research Division, F. W. Dodge Corp., from data compiled by E. H. Boeckh & Assocs., Inc.

NEW YORK

ATLANTA

	Residential		Apts., Hotels Office Bldgs. Brick	Commercial and Factory Bldgs. Brick Brick and and		Residential		Apts., Hotels Office Bldgs. Brick	Commercial and Factory Bldgs. Brick Brick and and	
Period	Brick	Frame	and Concr.	Concr.	Steel	Brick	Frame	and Concr.	Concr.	Steel
1930	127.0	126.7	124.1	128.0	123.6	82.1	80.9	84.5	86.1	83.6
1935	93.8	91.3	104.7	108.5	105.5	72.3	67.9	84.0	87.1	85.1
1939	123.5	122.4	130.7	133.4	130.1	86.3	83.1	95.1	97.4	94.7
1946	181.8	182.4	177.2	179.0	174.8	148.1	149.2	136.8	136.4	135.1
1947	219.3	222.0	207.6	207.5	203.8	180.4	184.0	158.1	157.1	158.0
1948	250.1	251.6	239.4	242.2	235.6	199.2	202.5	178.8	178.8	178.8
1949	243.7	240.8	242.8	246.4	240.0	189.3	189.9	180.6	180.8	177.5
1950	256.2	254.5	249.5	251.5	248.0	194.3	196.2	185.4	183.7	185.0
1951	273.2	271.3	263.7	265.2	262.2	212.8	214.6	204.2	202.8	205.0
1952	278.2	274.8	271.9	274.9	271.8	218.8	221.0	212.8	210.1	214.3
1953	281.3	277.2	281.0	286.0	282.0	223.3	224.6	221.3	221.8	223.0
1954	285.0	278.2	293.0	300.6	295.4	219.6	219.1	223.5	225.2	225.4
1955	293.1	286.0	300.0	308.3	302.4	225.3	225.1	229.0	231.5	231.8
1956	310.8	302.2	320.1	328.6	324.5	237.2	235.7	241.7	244.4	246.4
Jan. 1957	315.7	306.2	327.8	338.7	331.9	239.8	238.1	245.5	248.1	250.8
Feb. 1957	316.5	306.5	329.5	341.2	335.1	239.8	238.1	245.7	248.7	250.8
Mar. 1957	316.5	306.5	329.5	341.2	335.1	239.8	238.1	245.7	248.7	250.8
Mar. 1957	156.3	150.4	increase over 19 152.1	9 39 155.8	157.6	% increase over 1939 177.8 186.5 158.4 155.3				164.8

ST. LOUIS

SAN FRANCISCO

Mar. 1957	162.2	% is	144.8	19 3 9	149.3	168.1	% in	152.9	1939	160.4
Mar. 1957	289.0	280.8	290.6	302.2	296.7	283.1	272.4	296.9	307.4	303.4
Feb. 1957	289.7	281.1	291.0	302.6	297.2	283.1	272.4	296.9	307.4	303.4
Jan. 1957	289.7	281.1	290.8	302.0	297.2	283.1	272.7	297.2	307.6	303.5
1956	288.7	280.3	287.9	299.2	293.3	279.0	270.0	288.9	298.6	295.8
1955	273.3	266.5	272.2	281.3	276.5	268.0	259.6	275.0	284.4	279.6
1954	266.6	260.2	263.7	273.3	266.2	257.4	249.2	264.1	272.5	267.2
1953	263.4	256.4	259.0	267.6	259.2	255.2	257.2	256.6	261.0	259.7
1952	259.1	253.2	249.7	255.0	249.6	250.2	245.0	245.6	248.7	249.6
1951	252.0	248.3	238.5	240.9	239.0	245.2	240.4	239.6	243.1	243.1
1950	232.8	230.7	221.9	225.3	222.8	227.0	223.1	222.4	224.5	222.6
1949	221.4	220.7	212.8	215.7	213.6	213.0	207.1	214.0	219.8	216.1
1948	227.9	231.2	207.7	210.0	208.1	218.9	216.6	208.3	214.7	211.1
1947	202.4	203.8	183.9	184.2	184.0	193.1	191.6	183.7	186.8	186.9
1946	167.1	167.4	159.1	161.1	158.1	159.7	157.5	157.9	159.3	160.0
1939	110.2	107.0	118.7	119.8	119.0	105.6	99.3	117.4	121.9	116.5
1935	95.1	90.1	104.1	108.3	105.4	89.5	84.5	96.4	103.7	99.7
1930	108.9	108.3	112.4	115.3	111.3	90.8	86.8	100.4	104.9	100.4

Cost comparisons, as percentage differences for any particular type of construction, are possible between localities, or periods of time within the same city, by dividing the difference between the two index numbers by one of them; i.e.:

index for city A = 110 index for city B = 95

(both indexes must be for the same type of construction).

Then: costs in A are approximately 16 per cent higher than in B.

$$\frac{110 - 95}{95} = 0.158$$

Conversely: costs in B are approximately 14 per cent lower than in A.

$$\frac{110-95}{110} = 0.136$$

Cost comparisons cannot be made between different types of construction because the index numbers for each type relate to a different U. S. average for 1926-29.

Material prices and wage rates used in the current indexes make no allowance for payments in excess of published list prices, thus indexes reflect minimum costs and not necessarily actual costs.



BORDEN MANUFACTURES EVERY TYPE FLOOR GRATING

IN FERROUS AND NON-FERROUS METALS

- EASY TO INSTALL engineered in conveniently sized units for easy installation.
- EXTRA STRONG reinforced, designed with maximum safety factor.
- LIGHT WEIGHT approximately 80% open, reduces dead weight, allows greater live load.
- SELF-CLEANING creates greater safety, economy of maintenance, no sweeping or washing required.

Write for complete
information on BORDEN
All/Weld, Pressure Locked, and Riveted Floor
Gratings in this FREEI6-page catalog

BORDEN METAL PRODUCTS CO.

822 GREEN LANE ELizobeth 2-6410 ELIZABETH, N. J. SOUTHERN PLANT—LEEDS, ALA. — MAIN PLANT—UNION, N. J.

BORDEN METAL PRODUCTS CO.

Gentlemen:

Please send me BORDEN Catalog

NAME

TITLE

COMPANY NAME ..

ST. AND NO.

CITY AND STATE

WAY ABOVE THE CROWD

People in the average sidewalk crowd have very little conception of the chemical miracles that a bucket of paint might contain. To them paint is paint and "don't let it drop in your eye."

But in the paint industry's largest laboratories, Devoe scientists keep up an everlasting war on surface corrosion, wear and tear and all the other elements that add to paint maintenance expense. The happy result is a modern array of surface finishes in a veritable garden of hues, whose lasting qualities on schools, hotels, office buildings, any type of building . . . are so good that the cost-per-year goes down to a very surprising low.

AMONG THE RECENT DEVOE DEVELOPMENTS:

- Wonder-Pruf Masonry Finish (Pat. Pending) A new masonry finish that seals out water like a dam.
- Vinyl Wonder-tones-The world's fastest paint, odorless.
- Wonder-matic colors—A foolproof 1-tube color matching system in both alkyd and vinyl finishes.
- Epoxy finishes that set new high marks for both wear and corrosion resistance.

Ask your Devoe representative to show you why Devoe products are "above the crowd."

DEVOE

203 years of paint leadership!

DEVOE & RAYNOLDS COMPANY, INC.

Atlanta • Boston • Chicago • Cincinnati Dallas • Denver • Los Angeles Louisville • New York • Philadelphia





FINAL TOUCH-A SURE SOURCE OF EMERGENCY POWER



A modern hotel may be designed with every appointment, every luxury for the comfort of its clientele. But if a power failure makes its electrical equipment useless—even for minutes—guests are certain to be disgruntled. That is why dependable emergency power is a must.

The 125-room Hotel Suburban, in Summit, N. J., was built with every modern convenience, but the standby unit originally installed proved inadequate in emergencies. Today the hotel has a CAT* D318 Electric Set which goes smoothly into operation as soon as any break occurs in the supply of utility power. And whether the failure lasts for minutes or for days, the Caterpillar Diesel runs steadily. It furnishes power for all lights, oil burner pumps, elevators, kitchen and bar equipment and carpenter shop. Patrons don't even know there's trouble.

The D318 Electric Set delivers 60 KW. Other Caterpillar units, self-regulated and externally-regulated, are rated from 30 KW to a capacity fulfilling most needs. They are compact, easily installed and require very little maintenance or adjustment.

Caterpillar Dealers can give you specifications on the full line of diesel electric sets they sell and service. If you need information on standby power for any hotel, hospital or other public building, we suggest that you talk to your local Caterpillar Dealer.

Caterpillar Tractor Co., Peoria, Illinois, U. S. A.

CATERPILLAR*





Liverpool, Crown Street Station. John Foster II, architect (?), George Stephenson, engineer, 1830; Right: New York, Second Grand Central Station, Concourse, 1903-13

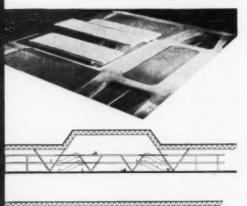
The Railroad Station. By Carroll L. V. Meeks. Yale University Press (New Haven, Conn.) 1956. 202 pp., illus. \$7.50

BUILDING FOR THE IRON HORSE - A STUDY IN 19TH CENTURY DESIGN

By MARJORIE B. NOYES



Rome, Second Stazione Termini. Angiolo Mazzoni and E. Montuori, architects, Leo Calini, engineer, 1931-51



Design for a station for New Haven, Conn. By Duncan W. Buell, 1953

Railroad stations, during the century before aviation, stood as the gates of the world's major cities. They were then, and still are, among the most heavily trafficked buildings in the cities. Architects and planners today are still trying to solve the problem of getting the passenger to and from the train with as much speed and comfort as possible. This involves not only planning pedestrian traffic, but also baggage facilities, restaurants, rest rooms, ticket and information booths and, in many cases, small shops. The magnificent opportunities to develop great spatial relations in railroad stations offer aesthetic appeal and invite engineering ingenuity.

In The Railroad Station, Carroll L. V. Meeks has used the passenger railroad terminal as a vehicle for studying the architecture of the Western world since 1800. He chose the building type because it is especially representative of the new problems of design posed by the Industrial Revolution. His purpose is to reveal the possibility for a re-evaluation of the 19th century architecture as a single style dominated by the practice of picturesque eclecticism much practiced and admired in that period.

Railroad stations represent not only the work of exceptionally able architects. This does not mean that railway architecture was either mediocre or unimportant. Its value as a sample is that it is representative.

Another basis for accepting stations as typical of the building activity of the

last century is their connection with one of the great problems of the period—the resolution of the relationship between architect and engineer.

In presenting his theory, Mr. Meeks has organized his text well and with considerable interest. In chronological order, he relates the problems of railroad station design, giving us a brief but adequate background of the development of the railroad as well as the architectural engineering and artistic developments of the terminals. In the first chapter the author analyzes the entire picturesque eclectic period.

The period between 1830 and 1845 represents the pioneer stage of railroad stations. It is to be remembered that there was no functional precedent for the depot and that every solution had to be invented. The author proposes that the most logical ancestor to the railroad station was the toll-house from which the most characteristic feature of the 19th century station may have evolved — that of the train shed.

English railroad stations as well as English railroads of this period established the patterns for the whole world. It was at Crown Street Station, Liverpool, that the peculiarly 19th century phenomenon—the train shed—was born. The train shed can be said to typify the inventive spirit of that century. Engineers seized upon the potentialities of the new material, iron, and began to set new records for spanning.

(Continued on page 62)

NEW YORK'S FASHION INSTITUTE SETS STYLE WITH

Aluminum WINDOWS and CURTAIN WALLS

by GENERAL BRONZE CORPORATION

The colored aluminum curtain wall design of the new Fashion Institute of Technology will make it one of the outstanding school buildings of our times.

Not only does the modern curtain wall offer many economic advantages to the owner – such as faster construction, more rentable floor area, earlier tenancy, etc. – but it also enables the architect to give his buildings a truly modern appearance.

As a result of our pioneering efforts in the field of curtain walls and our 11 years of practical experience on more than 40 individual jobs, both large and small, we at General Bronze have learned the answers to many of the intricate and detailed problems that are a part of this highly specialized business.

If you are thinking of curtain walls, in terms of aluminum, bronze or stainless steel, either complete skin or grid system, we offer you the benefit of our experience working with all types of buildings, all types of materials — experience that can help eliminate many headaches for you and save time and money for your clients. Call in the General Bronze representative today. He is anxious to serve you. Our catalogs are filed in Sweet's.

Fashion Institute of Technology
New York, N. Y.
Architects: de Young, Moscowitz and Rosenberg
Contractor: Depot Construction Co.





GENERAL BRONZE CORPORATION

Executive Offices and Main Plant: Stewart Ave., Garden City, N. Y. Sales Offices: 100 Park Ave., New York—3849 West Lake St., Chicago

PERMATITE DIVISION — Custom-built Windows, Architectural Metal Work and Revolving Doors.

ALWINTTE DIVISION — Stock-size Aluminum Windows BRACH MFG. CO. DIVISION — Muhel. T. V., Radio and Electronic Equipment STEEL WELDMENTS, INC. DIVISION — Custom febrication in steel and Iran.

REINFORCED CONCRETE

CONCRETE
BEINFORCING
STEEL INSTITUTE
C.R.S.L.

gave us elegance, lightness, and grace throughout the entire complex structure..."

The amazing Americana is a spectacular example of the graceful design made possible by the use of reinforced concrete. In addition to the hotel itself is the outdoor band shelter . . . a huge hyperbolic parabola roof of reinforced concrete . . . the only structure of its type in the world. Architect Lapidus, in describing the construction, states, "Our experience in previous hotels indicated that work could be started as soon as plans were completed . . . concrete and reinforcing steel were immediately available." Furthermore, "We found it possible to pour at the rate of one floor per week." On other important projects from coast to coast, reinforced concrete is providing better structures for less money. It is inherently firesafe, and highly resistant to wind, shock, and quake. On your next job, design for reinforced concrete.

... says
Mr. M. Lapidus,
architect for the
fabulous Americana
Hotel in Miami
Beach, Florida

- 14 Stories and roof "topped out" in as many weeks
- Faster completion; less job overhead with reinforced concrete
- Earlier rentals . . . 50 to 60% savings on forms
- 25,000 Cubic yards of concrete, 100,000 concrete blocks, and 2,200 tons of reinforcing steel went into the Americana

THE AMERICANA HOTEL Bal Harbour, Miami Beach Laurence A. Tisch, President Owner: Tisch Hotels, Inc.

Architects & Designers: Morris Lapidus Leo Kornblath, Associate New York-Miami Beach

Structural Engineers: Oboler & Clarke Miami Beach

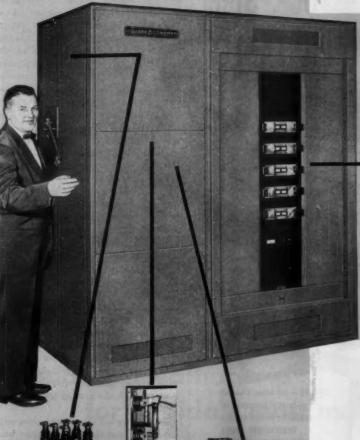
Contractor: Taylor Construction Company Miami



americana

38 S. Dearborn Street . Chicago 3, III.

SQUARE D'S NEW IN POWER-STYLE NO CONSTRUCTION



Designed to match Square D's Power-Style switchboards and control centers, these new Unit Substations meet MEMA, ASA, and AIEE standards. Available from 75 to 500 KVA; in primary voltages up to 4800V; secondary up to 600V.



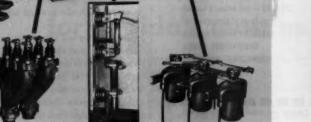


Molded case circuit breakers (left) up to 800 amperes and QMB Saflex fusible switches (right) up to 600 amperes are available in compect panel construction.



Large air circuit breaker (above) up to 1600 amps can be combined with a short panel in one section.





Potheeds, fused or unfused load break air-interrupter switches and fused or unfused oil-filled cutouts are available. Air-interrupter switches and cutouts are easily accessible from front of Substation.



3 single phase, dry-type transformers individually mounted on base in ventilated enclosure—heating and vibration held to a minimum. Transformers easily accessible for maintenance and inspection. When no air circuit breaker or metering equipment is used, entire area at top left is available for pull box.



NOW...EC&M PRODUCTS ARE A PART OF THE SQUARE D LINE !

SQUARE D COMPANY



REQUIRED READING

(Continued from page 58)

From this first experimental and inventive period the author continues to portray the development of railroad stations and picturesque eclecticism through to the present time.

The period from 1890 to 1914 saw the gradual movement away from picturesque eclecticism which was to grow into the completely new movement of modernism (for want of a more precise term). It was during this period that the present Grand Central Station was built in New York City. The author describes this as one of the outstandingly successful stations in history. That many contemporary architects agree with Mr. Meeks was recently borne out by the many protests voiced when the station was threatened with destruction to make way for a new, more contemporary terminal.

In the final chapter the author sums up his thesis with an application for the present and the future. He feels that now, as the tumultuous period of whitewashing tradition and privilege is coming to an end, a wiser view can be entertained. As time passes the indubitable merits of picturesque eclectic buildings will be more widely recognized. "In the days to come calculated use will be made of such 19th century experiments . . . and both trainsheds and shopping arcades may be studied as the starting points for new development." The entire study makes a great point for the originality and rugged individuality of the 19th century architect and engineer in contrast with the present trend toward conformity.

Whether or not the reader agrees with the author (and there will be many who do not), this is an interesting and scholarly book—if only for its historical content. There are many photographs and drawings to illustrate the text. This reviewer wishes that the illustrations accompanied the text and that the text were not quite so encumbered by a multitude of footnotes and references—these might be better exchanged with the photographs which are inconveniently grouped at the back of the book.

The Railroad Station was awarded the Hitchcock Award by the Society of Architectural Historians for the best history of architecture book in 1956. Carroll L. V. Meeks is associate professor of architecture and the history of art at Yale University.

(More reviews on page 372)



DKAHIIL modern weatherstrip for Florida's most modern hotel

When winds blow and rains come, or when Miami's sun is putting forth its best effort to make it uncomfortably hot, the guests inside Miami's Americana Hotel will not be concerned. For the perimeters of every opening window are sealed with DrafTite. The Americana's windows were furnished by the Arnold Altex Aluminum Company of Summerville, S. C., one of many manufacturers of quality windows who have selected DrafTite as the best weatherstripping for their product.

A window should operate quietly and easily and,

at the same time, efficiently seal out dust, wind and rain . . . seal in the comforts of modern air conditioning. DrafTite accomplishes these features better than any other weatherstripping because it has been engineered to seal efficiently, then built to rigid specifications. No finer weatherstrip is made.

Our engineering facilities are available to window manufacturers and architects who would like help with sealing problems. We welcome your inquiries.



Distinctive design by Briggs Beautyware provides low-cost luxury for unmatched sales appeal!



THE EMPEROR Distinctive, low, one-piece design and very quiet operation make it the ultimate in luxury and utility.

And Beautyware adds the privacy of silence!

your home buyers select. Add the choice of five Briggs compatible colors . . . Sky Blue, Coral, Sea Green, Sandstone, Pearl Gray . . . and your bathrooms become sales features second to none. And, of course, Briggs famous quality plus such important extras as quiet operation allows you to provide luxury plumbing fixtures at moderate cost. Specify dependability and

BRIGGS MANUFACTURING COMPANY • DETROIT, MICHIGAN

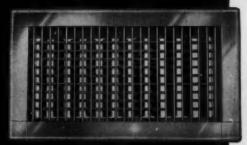
NOW A Thoroughly Practical

COMMERICAL TYPE



NO. 9 INSTALLATION FRAME

with No. 92V00 TRIPL-AIRE® GRILLE.



NO. 92 VHV TRIPL-AIRE®
MULTI-DEFLECTION REGISTER

Vertical face bars, horizontal secondary bars, vertical louvers.



NO. 93V FIXT-AIRE® REGISTER

Vertical front bars set straight, horizontal louvers.

For quick, easy and solid installations under all conditions, or to meet special requirements, the H&C No. 9 Installation Frame has been developed for use with H&C TRIPL-AIRE and FIXT-AIRE commercial type registers and grilles. It may be installed either before or after plastering. In the former case, the frame overlaps the opening 1 ½" and protrudes from the wall ½". Sponge rubber gasket prevents leakage. For a flush installation the frame is embedded in the plaster, the formed edge acting as a plaster lock.

REGISTERS & GRILLES



Ideal for every type of commercial installation. They supply every possible combination of airflow deflections desirable (over 260 combinations from stock items alone). They're extremely well made and good looking. Finished in H&C DECORATOR-GRAY Available at all H&C Jobbers. Write for catalog with complete engineering data.



NO. 94A
FIXT-AIRE® GRILLE
Horizontal face bars set at 22°
angle to conceal duct.





HART & COOLEY MANUFACTURING COMPANY

1-AC EAST EIGHTH STREET, HOLLAND, MICHIGAN IN CANADA: HART & COOLEY MANUFACTURING CO. FORT ERIE, ONTARIO



now...a completely inte



Kawneer unit wall and sun control products



KAWNEER UNIT WALL-Madonna High School, Chicago, Illinois, C. I. Krajewski, Architect-Engineer.



KAWNEER K-LOUVER—Rowland Union School, Puente, California. Lee B. Kline, A.J.A., Foster Simpson, Illuminating Engineer.



KAWNEER CANOPY—Crockett Junior High School, Irving, Texas. Wyatt-Hedrick, Architects.

KAWNEER UNIT WALL

This standardized exterior wall system offers the built-in versatility so necessary in school construction. Wall modules are available in a range of heights and widths... fixed or operating sash can be provided... insulated panels can be finished in a choice of colored porcelain enamel or alumilited aluminum... flush or glazed doors are available. This flexible system is engineered to provide unusual weathering features to resist water and air infiltretion. Investigate—you'll find the clean, contemporary design of Kawneer Unit Wall an economical answer to school building problems.

KAWNEER K-LOUVER

Direct sun light, reflected glare and intense sun heat sap student and teacher interest and initiative. Effective control of all these elements is easily achieved through Kawneer K-Louver applications regardless of climate characteristics, building orientation or building size or design. Open louver design allows natural air circulation . . . eliminates heat pockets. Concave-convex louver shape diffuses harsh sun rays . . . provides soft, uniform light throughout the room. Available in fixed or operating form for vertical or horizontal applications that meet any sun control requirement.

KAWNEER CANOPY

Year 'round light and weather control is a simple exercise for Kawneer Canopy. Bus loading points, entranceways and walkways between school buildings can be effectively sheltered regardless of climate demands. Open overlap of Kawneer's distinctive "W" shaped sections allows diffused light to filter through, but provides positive protection against wind, rain and snow. Range of widths offers enough flexibility to meet most sheltering requirements.





"WHEN CLIENTS ASK ME ABOUT FLOOR FINISHING AND MAINTENANCE



Ask for the Man Behind the Drum . . .

your Huntington Representative . . . whenever you have finishing or maintenance problems in public buildings.



I Consult the Man Who Knows"

"I rely on my Huntington Representative to suggest the best materials to give my clients the finest floors possible. Why? Because Huntington Representatives are trained, skilled technicians who know how to finish floors of all kinds properly." Huntington Representatives have this skill, because their products are used to service more than 25,000 public floors daily. And from this accumulated knowledge of cleaning and refinishing problems comes the skill and experience that practically guarantees the finest results possible at all times.

In fact, Huntington has developed special products and techniques . . . just to solve difficult cleaning and refinishing problems.

Not only do Huntington Products protect the beauty you have designed into your clients' floors and walls, they also help cut your clients' maintenance costs. A big point to consider today!

As an architect, you'll be doing yourself and your clients a favor by consulting your Huntington Representative on your next institutional finishing job.

HUNTINGTON LABORATORIES

INCORPORATE

Huntington, Indiana • • Philadelphia 35, Pennsylvania • • Toronto 2, Ontario



Hoover School in Neenah, Wisconsin, has many applications of L-O-F Glass.

Designed by Perkins & Will, Chicago, III., and White Plains, N. Y.

An L.O. F interview

with one of America's leading school architects (name on request)

Subject: Schools

Question: What do you consider the most important contribution of glass, properly used, in school design?

Answer: The primary function of glass in school design is to overcome limitations of space imposed, understandably, by the money budget and physical structure. The concept of space is divisible . . . space measured in square feet and, more importantly, space perceived.

The *illusion* of space is a major tool of the architectural profession . . . it conveys a consciousness of space beyond physical barriers. And to create it the architect employs glass.

Light and vision, comfort and safety, and beauty . . . these immediate benefits must be marshaled to contribute to educational environment. They help to create an atmosphere conducive to the full mental, physical and spiritual development of each child.



The environmental influence of a school building blends into the entire landscape. As a child approaches, he feels a kind of structural welcome. The transparent features of the entrance and rooms seem to beckon. He sees what and who are within, a perception that becomes ever more interesting with each step.

There is an unconscious transition as the child's personality merges psychologically with the school and its visible activities. He suddenly is within, yet he has no recollection of a physical threshold.

This imperceptible "oneness" between child and school environment should also prevail within the classroom. Expanses of glass provide intriguing "space perceived". Thus nature's out-of-doors world is integrated with the schoolroom and the bustling goings on that are inseparable from learning.

Youngsters who can look out and see a cloud-flecked sky, the beauty of trees, or perhaps a squirrel at play, will work even more diligently than if they were in restrictive, austere surroundings—and they will gain immensely broader experience in the ingredients of education. A high window sill is a deceptive barrier. If children cannot look out, they will dream their way over the sill, however forbidding its distance from the floor.

Similarly, glass space dividers between study areas and corridors tend to identify the child with the environment we call the school. Also consider the corridor a functional school thoroughfare, instead of a gloomy and sometimes hazardous tunnel. Open it visually to the world outside with walls of glass. Make it a safe and happy boulevard, adding to the educational tone of the school building.



Emory School in Palm City, Calif., uses sliding doors as part of daylight wall. Architects: Paderewski, Mitchell & Dean, San Diego, California.

- Q. What are your views on the use of insulating glass, such as Thermopane?
- A. When climatic conditions indicate it, and budgetary factors permit it, I would include insulating glass in school design. My answer must be qualified by facts-of-life considerations. In terms of healthful comfort, the value of insulating glass is great . . . also, it reduces heat loss in winter and keeps the interior cooler in summer. And aesthetically, it offers the architect greater potential in physical design. He can use larger areas of glass without worrying about excessive heat loss.





Corridor of Norman (Okla.) High School glazed with L·O·F glass. Associated Architects: Caudill, Rowlett, Scott and Associates — Perkins & Will.

- Q. Where would you recommend the use of tempered glass, such as Tuf-flex?
- A. I recommend tempered glass for any area where youngsters and missiles, of whatever description, are in motion—whether within or near the school building. And the more violent the motion, the more important tempered glass becomes.

Obviously, a gymnasium such as you see illustrated here, requires tempered glass. Kindergarten areas also are candidates for the use of tempered glass . . . for safety's sake.

And sometimes, unavoidably, a playground area is adjacent to—and virtually on a level with—a classroom section of the school. In such cases, tempered glass is to be recommended.



- Q. Do you feel that opaque colored glass, such as *Vitrolux*, has a functional and/or decorative place in school design?
- A. This type of glass, with its color and reflectivity, is also appropriate to school design—particularly as a facing material.

To achieve contrast, an architect may wish to employ color. Or the reflective sheen of glass may be preferred for an architectural effect.

Because it is maintenance-free, glass with color has a distinct advantage as a structural material.

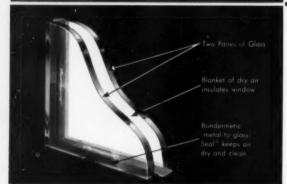
Gymnasium in J. R. Moore Junior High School in Tyler, Texas, has L-O-F Twi-flex glass from top to bottom. Architects: Brace and Russell, Tyler and Bryan, Texas. Associate Architects: Caudill, Rowlett, Scott and Associates of Oklahoma City, Oklahoma, and Bryan, Texas.

THIS IS ORDINARY PLATE GLASS

THIS IS L-O-F TWIN-GROUND Parallel-o-plate glass







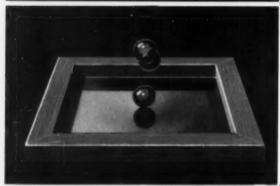
PARALLEL-O-PLATE®

Cast a critical eye on the reflections of the upside-down signs in the mirror of conventional plate glass (left) and the mirror of *Parallel-O-Plate* Glass (right).

Parallel-O-Plate Glass is so much more distortion-free than ordinary plate glass because its surfaces are so much more parallel. And that's because of L·O·F's twin-grinding process, where the glass is ground simultaneously, top and bottom, by a huge and highly accurate machine. Freedom from distortion is especially important in large glass areas.

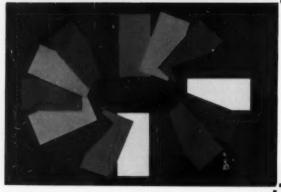
THERMOPANE®

Thermopane insulating glass puts two panes and a sealed-in blanket of dry, clean air between the children and the outdoors. The heat loss you would get through ordinary glass is cut almost in half. Drafts are also reduced so rooms are more comfortable, especially for children sitting close to the windows. Thermopane even deadens outside noise that could distract the class.



TUF-FLEX®

Here you see a half-pound (1\%" diameter) steel ball, dropped from a height of ten feet, bouncing harmlessly off \(\frac{1}{4}\)" thick \(Tuf\)-flex glass. \(Tuf\)-flex is 3 to 5 times stronger than regular plate glass of the same thickness. If maximum resistance is reached, \(Tuf\)-flex disintegrates into small, relatively harmless rock-salt-size particles instead of big jagged pieces.



VITROLUX ®

Rich color, fused to the back of this clear, heat-strengthened plate glass, adds an air of excitement and youthful beauty to your school. Use it as an exterior facing material (or for interior partitions). Natural resistance to weathering, crazing and checking. Standard maximum size of *Vitrolux* panels is 48" x 84". Special orders up to 60" x 84". Thickness ¼" plus 1/64" minus 1/32".

Send coupon for your free copy of our book *How To Get Nature-Quality Light For School Children*. Complete. Authoritative. Packed with facts. Valuable for anyone designing school buildings. Mail the coupon.

Libbey Owens Ford Glass Company 608 Madison Avenue, Toledo 3, Ohio Please send me Daylight Walls book

Name		
	(Please Print)	
Address		

Zone State



FOR SCHOOLS

LIBBEY . OWENS . FORD GLASS COMPANY



This beautiful, modern plant for the manufacture of Old Gold and Kent cigarettes was designed and constructed by Lockwood Greene Engineers, Inc., New York. Protection facilities include...

SPRINKLER SUPERVISORY AND WATERFLOW ALARM SERVICE BURGLAR ALARM SERVICE • WATCHMAN'S REPORTING SERVICE MANUAL FIRE ALARM SERVICE

Conceived, planned and built in every detail as the world's most modern cigarette factory, P. Lorillard Company's new prize-winning plant embodies the closest possible approach to automatic manufacture.

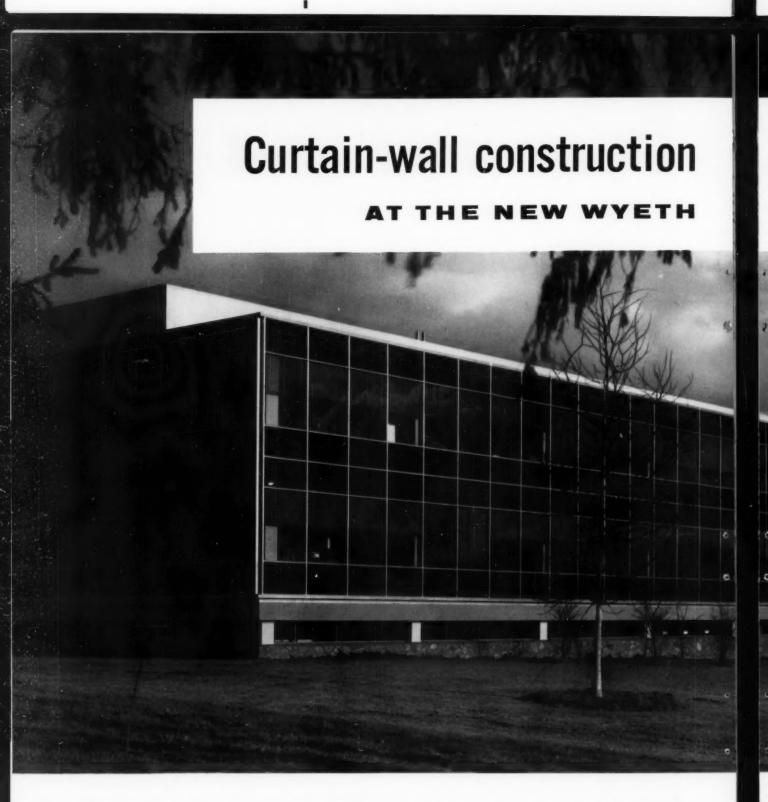
Automation applies even to protection. Storage and shipping rooms are guarded automatically by ADT Burglar Alarm Service. Sprinkler systems under ADT supervision summon fire-fighting forces automatically in case of fire. Watchmen report to the ADT Central Station while on patrol, and there is a complete ADT Manual Fire Alarm System including general alarm and pre-signal gongs and emergency call stations.

Whether your project is large or small, there is an ADT Automatic Protection Service to meet every requirement. Thousands of concerns from coast to coast depend on ADT for better protection against fire, burglary and other hazards, at lower cost.

Our local sales representative will be pleased to discuss your problem. Call us if we are listed in your phone book; or write to our Executive Office.

Controlled Companies of

AMERICAN DISTRICT TELEGRAPH COMPANY
A NATIONWIDE ORGANIZATION
Executive Office: 155 Sixth Avenue, N. Y. 13



WYETH LABORATORIES had their beginnings in a small Philadelphia drugstore. They have grown to be one of the nation's leading pharmaceutical manufacturers with a long list of drug "firsts," including the introduction of compressed tablets, soluble gelatin capsules and elixirs.

Their magnificent new laboratories at Radnor, Pa. are a striking illustration of the use of curtain-wall construction where a large ground area is available, and where a high building would not have met the needs of the firm. There are about 170,000 square feet of space, and each of the two connected sections of the building surrounds an open court.

Blue-green porcelain-enameled steel panels combine with blue-green heat-absorbing glass to give the building a striking exterior. But beauty is only one of the advantages of curtain-wall construction. With it go structural savings through reduction of load, earlier occupancy because of all-weather construction, increased floor area, and lower maintenance costs over the life of the building.

Steel gives you the greatest flexibility in curtain-wall design. Working with colorful porcelain-enameled steel or rich and lustrous Stainless Steel, you create the effect that is right for the concept of the building.

in a suburban setting



Wyeth Laboratories, Radnor, Pa. Architects: Skidmore, Owings & Merrill, New York. Contractor: George A. Fuller Company, New York.

Panel Fabricator: Ingram-Richardson Mfg. Co., Beaver Falls, Pa.

USS STEELS FOR ARCHITECTURAL DESIGN

USS Stainless Steel • USS Vitrenamel Sheets
USS Structural Steel • USS Window Sections



UNITED STATES STEEL



"You mean you get both air and light from the same unit?" "That's right. It's the new

MULTI-VENT TROFFER

The air diffuser is completely concealed in the flush light fixture!"

There's more to the new MULTI-VEHT TROFFER than meets the eye!

It combines a great advance in gently diffused, draft-free air conditioning, with modern, highly efficient lighting at a substantial savings in cost!

Complete concealment of the air diffuser within the handsome light fixture means freedom for the architect to design clean, uncluttered ceilings, greatly simplified mechanical planning for the engineer and ... for the contractor ... faster, easier field installation.

Write for detailed literature and the name of the representative in your area.

multi-vent

DIVISION OF
THE PYLE-NATIONAL COMPANY

1375 N. Kostner Avenue, Chicago 51, Illinois

WHERE QUALITY IS TRADITIONAL

Multi-Vent® by The Pyle-National Company—Trofferlite by Benjamin Electric Mfg. Co.



SALES AND ENGINEERING REPRESENTATIVES IN PRINCIPAL CITIES OF THE UNITED STATES AND CANADA

Rolling Steel Doors

OPERATOR

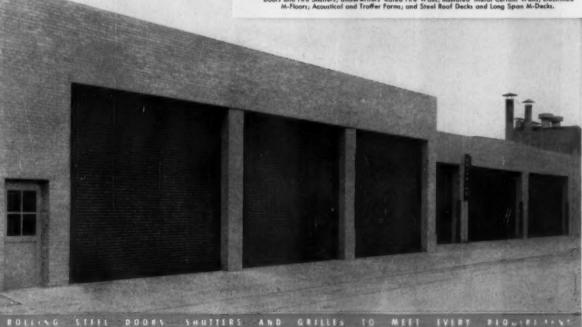
Manually, Mechanically or Electrically Operated

When you want positive protection, permanence, low maintenance, and the ultimate in convenience and operating efficiency, you will select Rolling Steel Doors. Because, in truck and railroad openings in industrial and commercial buildings, and in loading dock and transfer dock openings, rolling steel doors offer definite timesaving and space saving advantages over any other type of door. The vertical roll-up action of the door utilizes no usable space either inside or outside the opening . . . and, there are no overhead tracks or other obstructions to interfere with crane handling or restrict headroom adjacent to the opening. No other type of door can give you the positive security, firesafety, and everyday operating convenience of a good. quick-opening, quick-closing, power operated rolling steel door. Permanent, all-metal construction reduces maintenance to a negligible factor, and assures a lifetime of continuous trouble-free service. When you buy a rolling steel door, it will pay you to check specifications carefully . . . you'll find that Mahon doors are built better to give you better service over a longer period of time-for instance, the galvanized steel in Mahon curtain slats is BONDERIZED and DIP-COATED with Synthetic Enamel which is baked on at 350° F. prior to rollforming. This is just one of the extra-value features of Mahon Rolling Steel Doors . . . comparison will disclose many others that add up to a greater over-all value, and, a better investment. See Sweet's Files for complete information, or write for Catalogue G-57.

THE R. C. MAHON COMPANY . Detroit 34, Michigan

Sales-Engineering Offices in Detroit, New York and Chicago • Representatives in Principal Cities

Manufacturers of Rolling Steel Doors, Grilles, and Automatic Underwriters' Labeled Rolling Steel Fire Doors and Fire Shutters; Underwriters' Rated Fire Walls; Insulated Metal Curtain Walls; Electrified M-Floors; Acoustical and Troffer Forms; and Steel Roof Decks and Long Span M-Decks.



Six 18' x 14' Mahon Power Operated Rolling Steel Doars installed in openings of an Enclosed Loading Dock in the Peninsular Metal Products Carporation's Plant, Ferndale, Michigan, Lawrence G. Markey, Inc., General Contractors. MAHON

In the

USS American Welded Wire Fabric

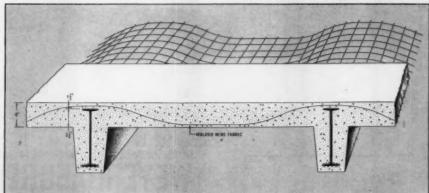
new Socony Mobil Building

... beam-and-slab concrete floors reinforced with USS American Welded Wire Fabric

American Welded Wire Fabric was used in the forty-two-story Socony Mobil Building in New York, just as it was in other buildings, such as in the Merchandise Mart in Chicago, in the Empire State Building, in the fourteen buildings of Rockefeller Center, and in countless other buildings throughout the world.

You're wise to use American Welded Wire Fabric wherever you use concrete in modern buildings. Short span concrete floor construction requires 28% less reinforcement where Welded Wire Fabric is used. That's because American Welded Wire Fabric is made from high strength cold drawn wire that is allowed a working stress of 30,000 psi in most building codes. It saves money too... saves on transportation, installation and handling expenses. Use it in shopping centers, factory floors, school buildings, reinforced concrete walls and homes.

Reinforced concrete floor slabs supported by steel beams



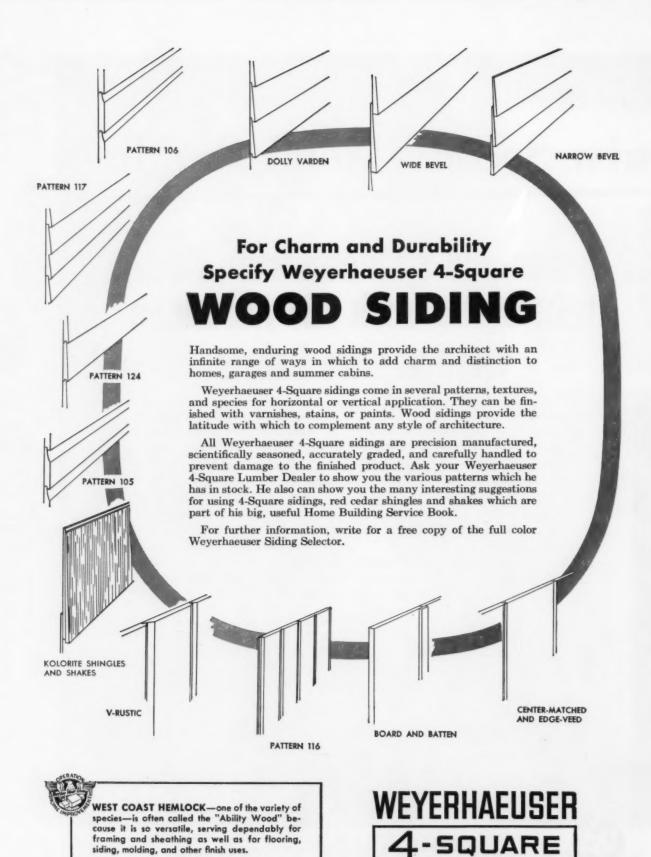


AMERICAN STEEL & WIRE DIVISION, UNITED STATES STEEL, GENERAL OFFICES: CLEVELAND, OHIO

COLUMBIA-GENEVA STEEL DIVISION, SAN FRANCISCO, PACIFIC COAST DISTRIBUTORS

TENNESSEE COAL & IRON DIVISION, FAIRFIELD, ALA., SOUTHERN DISTRIBUTORS • UNITED STATES STEEL EXPORT COMPANY, NEW YORK

UNITED STATES STEEL



WEYERHAEUSER SALES COMPANY . ST. PAI

. ST. PAUL 1, MINNESOTA

Sill-line goes to CHURCH...

Not all kinds of heating equipment look well in church.

So when Charles W. Pollitt of Philadelphia designed

the St. Paul Reformed Episcopal Church in Oreland, Pa.,

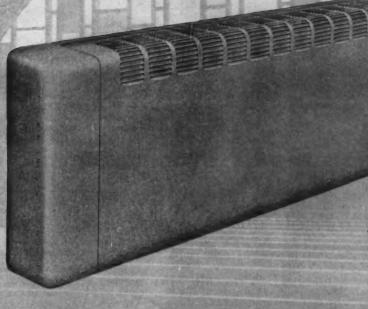
he chose Nesbitt Sill-line to grace its modern interior.

Sill-line offered the perimeter protection needed

and its long trim lines conformed to the contemporary design.

You could do some nice things, too, with this

"world's most beautiful perimeter radiation."



One-piece back panel;
Two mediums: steam or hot water;
Three-step easy installation;
Four wall comfort;
Five enclosure styles;
Six baked enamel colors;
Seven standard lengths;

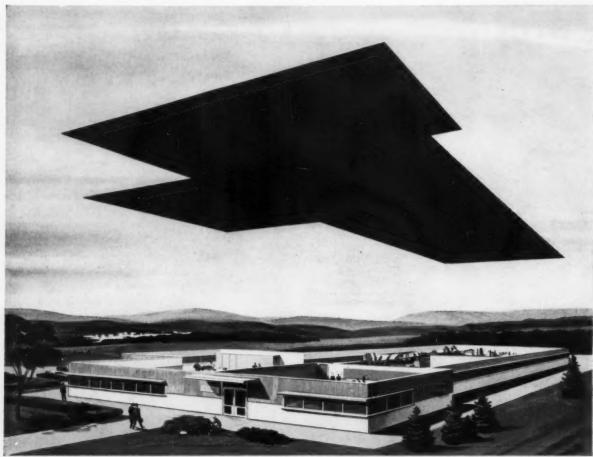
THE PROPERTY OF THE PROPERTY O

Eight types of heating element; Nine matching accessories; Ten -strike for value!

Neshitt

SILL-LINE RADIATION

Made and Sold by John J. Nesbitt, Inc. Philadelphia 36, Pa. Publication 30-1



J-M Aquadam Roofs provide lasting roof protection. They are specifically designed for low pitch and dead level roof decks.

Give your clients the best roof protection ...

specify Johns-Manville Aquadam Built-Up Roofs and be sure

A good roof is in reality a valuable "over head" investment. The roof is subject to the hardest wear of any part of a building. J-M Aquadam Roofs provide long-lasting protection with a minimum of roofing repair and maintenance expense.

J-M Aquadam Roofs owe their superiority to Aquadam, the modern cementing agent used in the application of felts. Aquadam has exceptionally high adhesive and permanent bonding properties. It has approximately twice the ability of typical

asphalts to retain its initial properties on exposure.

Aquadam Built-Up Roofs resist beating rains, winds, melting snow and ice. The result is thorough watertightness in low sloped and dead level roofs.

The high ductility of J-M Aquadam helps prevent roof cracking. Aquadam reseals and repairs itself after being subjected to the equivalent of summer roof temperatures.

Aquadam Built-Up Roofs are available in both smooth surfaced and slag or gravel specifications.

Johns-Manville Approved Contractors are experienced roofers. They can help you in the planning and installation of the best application of Aquadam Built-Up Roofs. You'll find Approved Johns-Manville Contractors listed in the Classified Section of telephone directories. For illustrated data send for copy of "J-M Aquadam Built-Up Roofs." Write to Johns-Manville, Box 158, N. Y. 16, N. Y. In Canada, write 565 Lakeshore Rd. E., Port Credit, Ont.

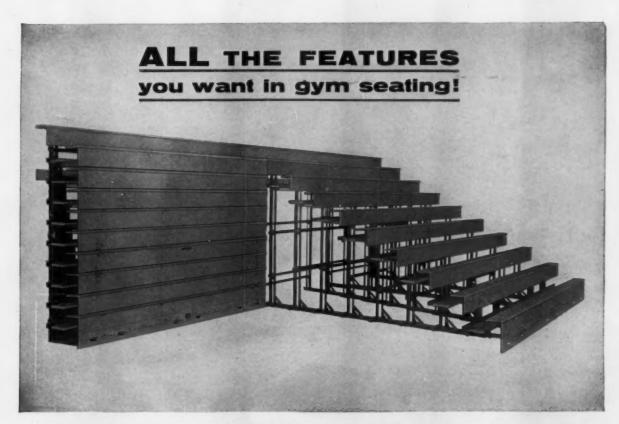


Johns-Manville congratulates the American Institute of Architects on its 100th Anniversary.

-Consult an architect-use quality materials.



Johns-Manville



Name the factors <u>you</u> consider the most important in gym seats... Safety and strong construction?—Roomy seating capacity?—Maximum visibility?—Comfort?—Ease of operation?—Accessibility for cleaning and maintenance?—Lowest upkeep? Whatever feature tops your list of "musts", critical comparison will prove the superiority of Medart Telescopic Gym Seats.

Medart's stronger, self-supporting, free-standing steel understructure <u>does not</u> depend on oblique bracing, springs, wall supports or wood members to support over 400 pounds per linear foot per row. Instead, seats, footboards and risers provide <u>extra</u> strength and rigidity.

Each row is supported on twin angle <u>vertical</u> uprights—4 of them to each 16-foot row—that place the seated load on the floor, not the wall.

To suit every seating and seeing requirement, Medart Seats are built with either 22" or 24" spacing between rows, and with 10½" or 11½" row rise. Several extra inches of toe and heel room make them roomier, more comfortable.

These, and many other advantages explain why Medart Seat installations far outnumber all others. Get <u>All</u> the facts...Write today for Complete Catalog.

MEDART TELESCOPIC GYM SEATS

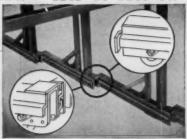
SPECIFY the best, then INSIST on it!



PRED MEDART PRODUCTS INC. . 3840 DE KALB ST. . ST. LOUIS 18. MISSOUR



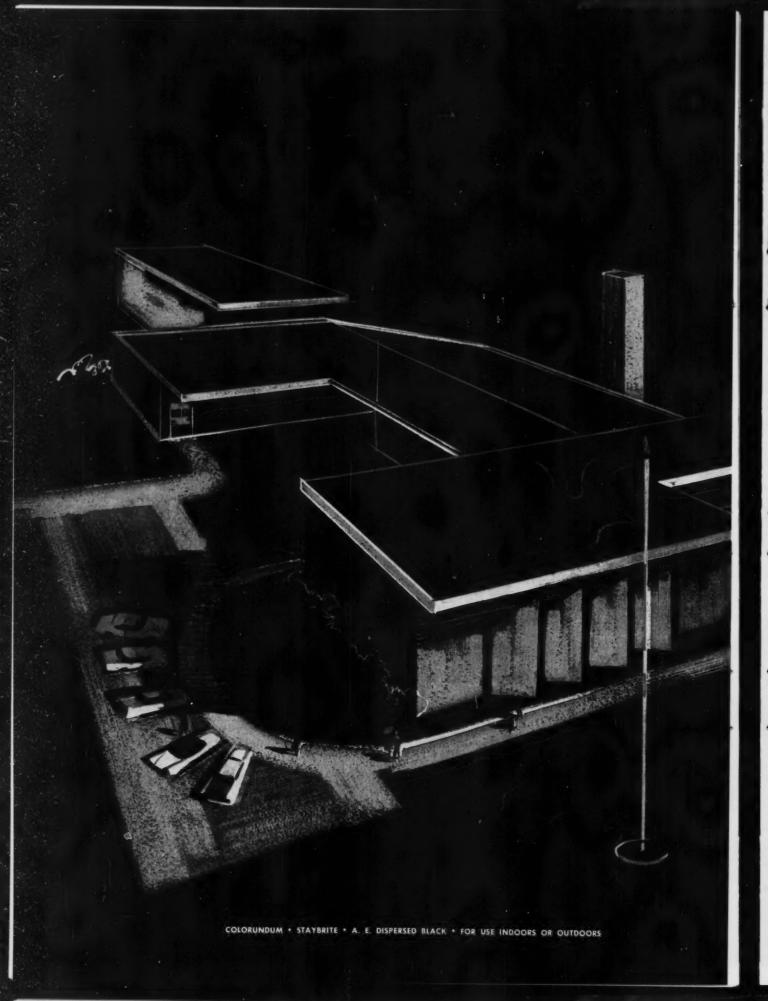
"Floating Motion" operation. Interlocked telescoping arms and supporting members float in and out with amazing ease, prevent binding, assure true alignment. Medart Seats are easiest of all to operate.



"Dual Align" roller housings are interlocked for straight line trackage during opening and closing. Non-marring rollers retract under load; place upright load directly on floor.



Safer Weight Distribution, maximum resistance to sway, greater strength and ultimate compactness is obtained by staggering the 4 vertical uprights under each row.





NEW concept...

WITH COLORFUL CONCRETE

This is the Age of Color in Architecture. And particularly in concrete, color is being used with greater freedom and effect than ever before. Today, many architects specify colorful patios, terraces and walls to harmonize with new building materials like stainless steel; others use subtle pastels to create new atmospheres indoors and out; and still others are using this brilliant medium for strictly functional purposes, such as to guide traffic or set off working areas.

Color selection in construction is easy

Specify Horn Colorundum for decorative floors, modern in appearance, with increased value.

Specify Horn Staybrite integral color to enhance the beauty of all concrete and mortar surfaces.

Both are available in a wide range of decorative colors.

Specify Horn A. E. Dispersed Black to darken concrete. It is *guaranteed* not to reduce the air content in air entrained concrete mixes.

Want more information? For condensed data see Sweets—For complete details write Dept. H 47-615.

A. C. Horn Companies

Subsidiaries & Divisions

Sun Chemical Corporation

10th Street & 44th Ave., L. I. City 1, N. Y.

PLANTS: Long Island City * Houston * Los Angeles * San Francisca * Toronto Sales Offices and Warehouses throughout the United States and Canada

DIVISIONS OF SUN CHEMICAL CORPORATION

FORM (points, maintenants and construction materials, industrial contings) - WARWICK (Instite and industrial classicals) - WARWICK WAX (reference of apociality waxes) - BETHERFORM (Ethographic apopline) - 32N SUPPLY (Ethographic pappion) - GENERAL PROTING INK (Symmod Olimon - Facts & Long - Eagle - American - Kafly - Classical Calus & Supply Inha) - MORRELL (news inhs) - ELECTRO - TECHNICAL PRODUCTS (contings and pautics) - PROMENTS DEVISION (symmoth for points, plantics, printing inks of all kinds) - OVERSEAS DIVISION (supply) - A. C. HIBM COMPANY, LIMITED (Classics) - GENERAL PROTINC INK COMPONITION OF CANADA, LIMITED - FORCE & LIMIT 6s MEXICO, S.A. do C.Y.

El Panama Hotel, Panama City, Panama Hotel Fontainbleau, Miami Beach, Florida The Greenbrier, White Sulphur Springs, West Virginia

Where the service is the best... Tube-Ice is there!



Hartford Statler Hotel, Hartford, Conn.

Hotels that cater to America's smart set consider it good policy to make exceptional service a daily routine.

They've found that such problems as ice making deserve special attention because proper icing enhances both the taste and appearance of food and beverages.

Salads served "garden fresh" with the help of ice . . . cold cuts with that "just sliced" look . . . and beverages that are properly chilled without being "watered down" convey a message to guests that says: "We know you appreciate the finest". Vogt Tube-Ice is doing the icing job

Vogt Tube-Ice is doing the icing job right for fine hotels like these. Write for descriptive literature.

Dept. 24Å-RTAR
HENRY VOGT MACHINE CO., LOUISVILLE, KY.

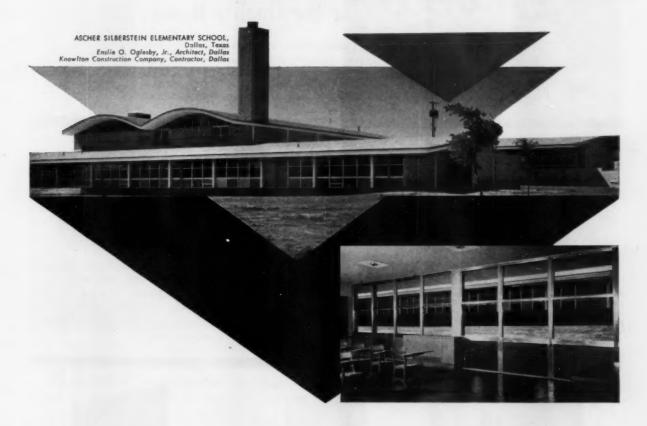
Sales Offices

New York • Philadelphia • Chicago • Cleveland St. Louis • Cincinnati • Dallas • Cherleston, W. Va.

Cutomatic TUBE-ICE MACHINES

PRACTICAL WAY TO BUILD A SCHOOL

CUPPLES



Modern "skin" construction is ideal for schools. It's economical, sound . . . gives more light, more space.

The Cupples' aluminum curtain wall of this Dallas school is composed of tubular mullions, double-hung windows, integral panels and overhead type balances. Column closures are alumilite finish.

Insulated panels are multi-colored porcelain. Trim applied to exterior with tamper-proof screw.

Cupples' projected windows are used in the clearstory areas and in the gymnasium wing.

From skyscrapers to schools, Cupples is foremost in curtain wall development, fabrication and erection. Cupples, also, is one of the nation's largest manufacturers of commercial and residential aluminum windows, doors, Alumi-Coustic grid systems and special ornamental products. Our catalogs are filed in Sweet's.



PRODUCTS CORPORATION

2658 SOUTH HANLEY ROAD . ST. LOUIS 17, MISSOURI

Quality Intercom Equipment for the Quality Home ...

TREND: more intercom systems in homes! FACT: more Lowell units are installed than any other make. REASON: Lowell superiority, well-known in its baffles, assures lasting customer satisfaction, simple installation.

WRITE for complete catalog, detailed specifications, and quotation on custom units!



Model CB3X. Entrance intercom with pushbutton to operate chimes or doorbell. Circularourned operate chimes or doorbeil. Circular-tiouvred opening for 3" speaker. Finish: white enamel. Includes 22 gauge steel box with 34" knock-outs, provisions for mounting speaker. Use-ful for homes, multiple apartments, small clinics.



Model C5XD. Heavy 18 gauge steel rust-proof box and plate for recessing small intercom master station in kitchens. Handles 5" speaker, up to 6 stations. Available in either rectangular or circular opening.



Deluxe Model CK7X. For combingtion recessed radio and master intercom. 18 gauge rust-proof box with 34" knock-outs on all sides. Plate available in either primed coated steel or stainless steel.



Model C5STX. Steel sub-station box and face plate with fine perforated steel mesh grille. Suitable for mounting either 5" or 6" speaker, all hardware furnished.



Model C5RX. Steel sub-station and grille with opening for 5" speaker, provision for mounting push-to-talk switch. Wall or ceiling mounting. All hardware furnished.



Model C5X. Zinc-chromated substation face plate with spot-welded perforated metal grille. Speaker mounts directly to P46X protective steel box, not to plate.

LOWELL . . . The ONE source for immediate delivery of over 100 models: intercom equipment, wall and ceiling baffles, protective enclosures, grilles and mounting accessories.



MANUFACTURING COMPANY

3030 Laclede Station Road, St. Louis 17, Missouri

In Canada: Atlas Radio Corp., Ltd., 50 Wingold Avenue, Toronto 10, Ontario





But modern sealants based on THIOKOL liquid polymers take their place in the sun with ease. They maintain full resiliency, strength and adhesion year after year in the hottest of climates.

Avoid costly replacement on your next project by specifying sealants based on THIOKOL liquid polymers. Outstanding multi-material adhesion makes them ideally suited for glassmetal curtain wall constructions. For more information see Sweet's 1957 catalog or write: Thiokol Chemical Corporation, 780 North Clinton Ave., Trenton 7, N. J. In Canada: Naugatuck Chemicals Division, Dominion Rubber Co., Elmira, Ontario.

"We needed lasting resistance to sun, salt spray and hurricane winds...

... so we specified a sealant based on THIOKOL liquid polymers," reports E. T. REEDER, of E. T. Reeder & Associates, Miami. Florida.

"In the recently completed Miami Beach Federal Building all finishes are either stainless steel, porcelain enamel, glass or granite facia. Therefore we chose Tremco Lasto-Meric, a modern sealant based on Thiokol liquid polymers, for its ability to adhere tenaciously to a variety of materials, and its remarkable resistance to deterioration under extreme weather conditions."



Registered Trademark of the Thiokol Chemical Corporation for its liquid polymers, rocket propellants, plasticizers and other chemical products.



New Orleans City Hall Building

New Orleans, La.

Architects Architects Consulting Engineers General Contractor Mechanical Contractor **Ductwork Fabricators**

Goldstein, Parham & Labouisse, New Orleans Favrot, Reed, Mathes and Bergman, New Orleans de Laureal & Moses, New Orleans R. P. Farnsworth & Company, Inc. Emile M. Babst Company, New Orleans Atlas Blow Pipe & Sheet Metal Works, New Orleans

Air Conditioning Ducts | Wheeling sorTite copelor Galvanized Sheets











Wheeling SofTite Cop-R-Loy Galvanized Sheets were used for the 1,600 horizontal air distribution sections plus 62 vertical shafts.

52 vertical ducts distribute 100,000 cfm of fresh air to 1,122 perimeter units. All ducts made of Wheeling SOFTITE Cop-R-Loy Galvanized Sheets.

28 large central air conditioning units and 1,122 small air handling units were needed for the new \$71/2 million New Orleans City Hall. Because of the high pressure (5,000 fpm at 8" water pressure) of the air to be carried in this system, specifications called for a "standing S joint" to hold the two edges of a formed piece of ductwork together.

Using Wheeling SOFTITE Cop-R-Loy Galvanized Sheets, the builders were able to quickly form the duct system of this new building without preliminary cutting...thus avoiding shearing waste.

SOFTITE Cop-R-Loy Galvanized Sheets are but one of the many fine Wheeling building products which are helping cut costs and increase efficiency for the nation's architects and builders. Other products include Metal Lath and Accessories, Steelcrete Reinforcing Mesh, ExM Gratings and Angle Frame Partitions and Tri-Rib

Steel Roof Deck.

For full details contact the Wheeling warehouse or sales office nearest you.



WHEELING CORRUGATING COMPANY WHEELING, WEST VIRGINIA IT'S WHEELING STEEL

> Atlanta Boston Buffalo Chicago Columbus Detroit Houston Kansas City Louisville Minneapolis New Orleans New York Philadelphia Richmond St. Louis

Gamewell offers a new concept to fire protection engineering...

FLEXALARM Fire Alarm System Planning Guide

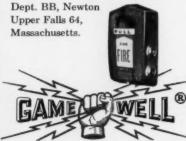


Flexalarm F249 Planning Guide includes data on (1) Basic System plans and their integration; (2) Major Components and their function; (3) Fifty-two systems which answer specific requirements; and (4) Definitions of terms used in the fire alarm industry.

F249 is uniquely arranged for quick reference and will be supplemented on a periodic basis with additional data on fire alarm systems. Here's a new and simplified approach to the design, application and specification of interior fire alarm systems — the Gamewell Flexalarm Catalog No. F249. It is available to you without charge.

Over 96 pages of information and technical data on the Flexalarm System have been compiled by Gamewell. It includes suggested systems and layouts, gives you a complete one-source reference for specifying the best possible protection against the hazards of fire.

Send for Flexalarm F249 Now! Save valuable time, make sure your plans include the most modern fire alarm systems available. F249 can be used to write a complete specification or as the basis for special systems as required. Request your copy from: The Gamewell Company,



THE GAMEWELL COMPANY
Newton Upper Falls 64, Mass.

Flexalarm is a special line of fire alarm signal systems designed for general industrial, commercial and institutional applications. It features a new building-block concept, based on Gamewell experience in signaling and communications — allowing the architect, engineer, and user to tailor a fire alarm system exactly to needs . . . for maximum protection at minimum cost.

Control Units . . . integrating extensive combination of functions, including annunciating, battery standby, automatic detection, coded stations and special drill and test features.

GA 6-31



Interior designs by John and Earline Brice.

Build in sales-making décor BEGIN WITH A BEAUTIFUL BACKGROUND of plastic wall tile



Delightful background for a child's room . . . wall and ceiling in colorful stripes of plastic wall tile squares made of Styron®. Lustrous square tiles also face the built-in bed. From dainty bedrooms to gleaming kitchens, Styron plastic tile will give

your homes distinctive new beauty that sells . . . beauty that is as practical as it is decorative. You have more than fifty decorator-styled Styron colors to work with . . . an exciting variety of versatile shapes . . . designs unlimited! Specify plastic wall tile made of Styron . . . the quality of tile, mastic and installation is dealer guaranteed. Your certified dealer can help you plan this beauty and easy-care decor that sell homes in any price range. The down chemical company, Midland, Michigan, Plastics Sales Dept. PL1559Q.



IDEA! Play up a divider wall with king-size squares of easy-to-clean Styron plastic tile.



Lifetime perimeter



Place Styrofoam horizontally, next to exterior walls . . .

Wolfe & Gilchrist choose STYROFOAM for finest perimeter insulation

Keith Gilchrist, builder of contemporary homes, reports, "I've found Styrofoam the best ever for perimeter insulation in basementless homes. The way it protects against cold, heat and dampness is really something."

(All photos shown here were taken in Wolfe & Gilchrist's Holly Hill subdivision, northwest of Detroit, Michigan.)





insulation with Styrofoam





2 Apply vapor barrier . . .

3 Pour concrete floor slab . . .

STYROFOAM* (a Dow plastic foam) is a new kind of homogeneous insulation introduced by Dow, First in Foam. It resists rot, mold and deterioration. It has no food value—does not attract rodents and vermin.

A plank 9 feet long and 1 by 12 inches weighs less than 22 ounces! It's strong enough to support a commercial vehicle. Won't absorb water—even after a week's immersion only the open surface cells show any sign of moisture.

Here's an economical insulation—clean, easy to handle—available in various lengths, thicknesses. The millions of

tiny, noninterconnecting cells block out heat and cold. What's more, Styrofoam gives lifetime protection.

PROVED FOR 10 YEARS – Since 1946, Styrofoam has established a consistent record of satisfaction in the field of industrial refrigeration. Here only the best is good enough.

Now that Dow has increased production, Styrofoam is available as comfort insulation. Builders, architects and home owners, too, can profit from its unique combination of properties.

For further information, contact your nearest Styrofoam distributor: CALIFORNIA, San Francisco: Western Foam Products, Inc. ° CALIFORNIA, Los Angeles 13: Pacific Foam Products Company * FLORIDA, Tampa: The Soule Company * GEORGIA, Allanta 8: Badham Sales Company * ILLINOIS, Chicago 11: The Putnam Organization, Inc. * IOWA, Des Moines: Wilson-Rogers, Inc. * KANSAS, Kansas City: Styro Products, Inc. * MASSACHUSETTS, Ipswich: Atlantic Foam Products Company * MICHIGAN, Detroit: Par-Foam, Incorporated * MICHIGAN, Midland: Floral Foam Products * MINNESOTA, Minneapolis 8: Edward Sales Corporation * MONTANA, Billings: Madden Construction Supply Company * NEW YORK, Rochester 20: William Summerhays Sons Corp. * NEW YORK, Long Island City 1: Styro Sales Company, Inc. * OHIO, Cincinnati: The Seward Sales Corporation * OHIO, Cleveland 3: Structural Foams, Inc. * PENNSYLVANIA, Plymouth Meeting: G & W H Corson, Incorporated * TEXAS, Houston: The Emerson Company * UTAH, Salt Lake City 10: Utah Lumber Company * WASHINGTON, Seattle 9: Wiley-Bayley, Inc. * WISCONSIN, Milwaukee: S & S Sales Corporation * CANADA, Edmonton, Alberta: Northern Asbestos and Building Supply Co., Ltd. * CANADA, Kitchener, Ontario: Durofoam Insulation, Ltd. * CANADA, Vancouver, B. C.: Wiley-Bayley Co., Ltd. Or write THE DOW CHEMICAL COMPANY, Midland, Michigan—Plastics Sales Department PL 1744Y.

*STYROFOAM IS A REGISTERED TRADEMARK OF THE DOW CHEMICAL COMPANY, Midland, Michigan—Plastics Sales Department PL 1744Y.

YOU CAN DEPEND ON



You'll find Advantages you want in

GLIDE-ALL Sliding Doors

. features like these:

FOUR POINT CONTACT assures positive stability, preventing rock or twist of the panels in operation. This feature is achieved with the two upper adjustable rollers and two adjustable lower guides. Upper Roller assemblies have an adjustability feature (34") to assure easy installation and to compensate for outof-square openings. Lower guides also adjust to the proper depth to noiselessly guide bottom of panel.



ROLLER ASSEMBLY Smooth-rolling nylon wheel assembly permits quick, simple installation and adjustment that is permanent.



LOWER GUIDES Specially designed steel bracket with polyethylene sleeve-adjusting screw allows 34" movement up or down . . locks in permanent position.

OTHER FEATURES that make Glide-All Sliding Doors outstanding are shown below.

Glide-All Doors are available for 8' floor-to-ceiling and 6' 8" high installations—in a variety of standard opening widths. For complete details, specifications and prices see Sweets or write the nearest Woodall plant.



HEAVY STEEL TRACK is easily installed, and formed to prevent rollers from "run off." Notched for quick panel installation.



ALUMINUM THRESHOLD Decord tive and sturdy, it is simply attached to floor. Graaves receive battom guides to assure panel stability.



STURDY PANEL Hard, smooth hardboard with great structural strength takes any finish to walls.



RIGID STEEL TUBES Used for stiles and rails, they give pan-el stiffness but allow it to "float" to compensate for expansion, contraction and prevent warpage.

GLIDE-ALL Doors are available in principal cities throughout the United States and Canada.

For information write Plant nearest you.

GLIDE-ALL DOORS ARE A PRODUCT OF

WOODALL INDUSTRIES NC.

DETROIT 34. MICHIGAN



The American Seating Company received the "highest honors" award for this new Contemporary Pew, "in recognition of out-standing achievement in general products design" in hardwoods.

Announcing the Bodiform CONTEMPORARY

... a new line of church pewing by American Seating, functionally designed for all modern church interiors

Now you can have distinctively modern pewing that complements all modern and modified traditional church interiors . . . with the new American Seating Bodiform Contemporary. Here is the restful comfort of one-piece Bodiform construction, with its graceful body-fitting contours.

Here is new convenience for worshippers — for the Bod-FORM Contemporary has no back supports to interfere with entering, sitting, or leaving . . . no aisle-tripping pew ends. There's more legroom, more kneeroom — more room for standing and passing.

Here is new beauty for your church in the rich, natural grain and color of fine cabinet woods . . . smartly tapered steel legs . . . optional pew ends, in a choice of five attractive designs.

In planning the pewing for new churches, or remodeling of present churches, be sure you get details on this new Bodiform Contemporary Pew. Write today, or phone our nearest sales representative.

SEATING

Write Department No. 15

WORLD'S LEADER IN PUBLIC SEATING

Grand Rapids 2, Michigan. Branch Offices and Distributors in Principal Cities. Manufacturers of Church, School, Auditorium, Theatre, Stadium, Transportation Seating, and Folding Chairs and Tables.

20,000 FL* REDUCED TO 50 FL PROVES

HONEYLITE' ELIMINATES GLARE!

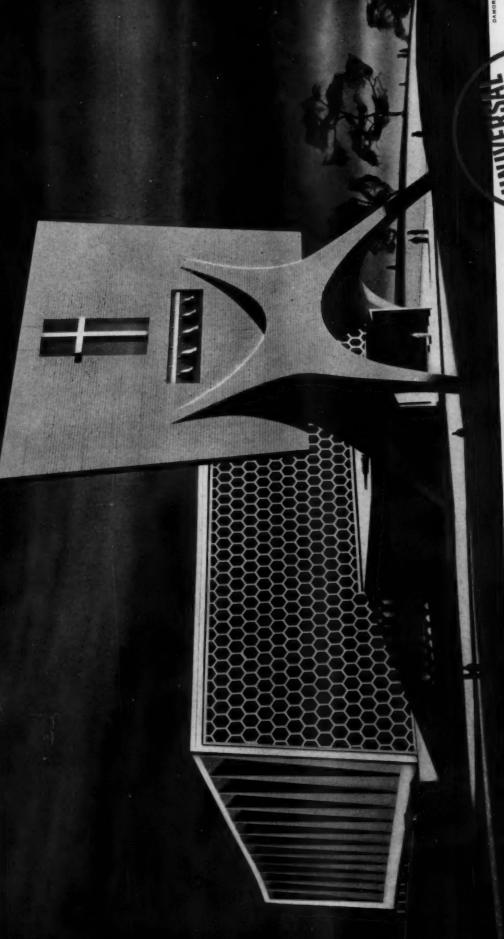


Right after this photograph was taken an illuminating engineer from an independent laboratory took Footlambert readings. His findings are as follows: each of the battery of photographer's floodlights produced 20,000 FL; the six Honeylite panels gave overall 340 FL readings; the little girl's face showed 120 FL; and the page in her picture book was all the way down to 50 FL...a light soft enough for the youngest eyes!

LIGHT-DIFFUSING ALUMINUM HONEYCOMB
A DEVELOPMENT OF HEXCEL PRODUCTS INC.
951-61ST STREET, OAKLAND 8, CALIFORNIA

See our Catalog in Sweet's file 31a/He

Footlambert – the standard unit of surface brightness – as measured with a Spectra Brightness Spot Meter. Name of testing laboratory available on request.



TOMORROW'S HOUSE OF WORSHIP: modern symbol of reverence

characteristic of our time as was the dome in medieval days. It is an impressive concrete banner, pierced to hold today's electrically operated bells. Walls and roof of the building are formed by a thin, fireproof drape of reinforced concrete, creased into folds for structural stiffness. as a lookout and defense point. Here an upraised slab of reinforced concrete seeks to form an architectural symbol that will be as structurally "The intent of this structural system is expressed first of all in the bell tower. Historically, such a structure soars upward to serve

MARCEL BREUER, Architect; Hamilton P. Smith. Associate Thus, in strong but humble lines, concrete expresses the concept of a modern religious structure."

a greater America through the medium of concrete. For more about this building method, write to Universal Atlas, 100 Park Avenue, New York 17, N.Y. ■One of a series of advertisements being presented in national magazines by Universal Atlas — to promote interest in architectural contributions for

UNIVERSAL ATLAS CEMENT COMPANY -- MEMBER OF THE INDUSTRIAL FAMILY THAT SERVES THE NATION -- UNITED STATES STREEL ATUS PORTUMD CEMENT - UNIVERSAL PORTUMD CEMENT - ATUS DUBAPLASTIC PORTUMD CEMENT - UNIVERSAL PORTUMD SUAG CEMENTS - ATUS MONTAR CEMENT - ATUS WHITE PORTUMD CEMENTS - ATUS LUMINITE CEMENT - UNAFLO DIL-WELL CEMENT

Catalog Designed

THE COVERHEAD DOOR

upward-acting sectional doors

S

Architectural 161

Light Construction 4d Ov

Industrial 7a

EXPERT INSTALLATION

COAST-TO-COAST SERVICE

FULL RESPONSIBILITY

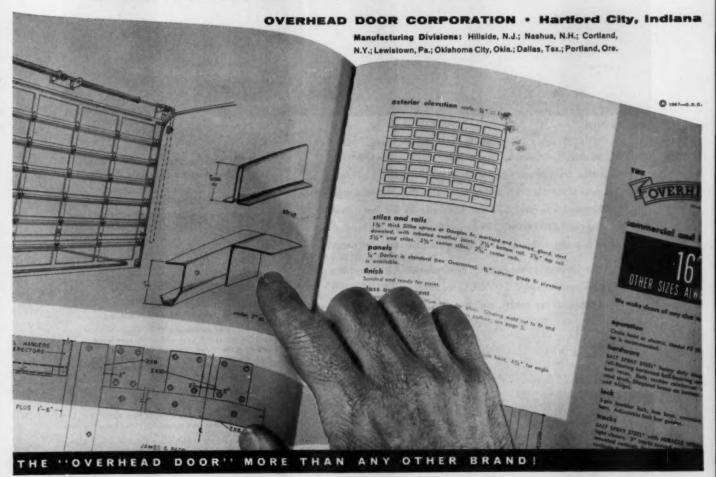
CORPORATION

FOR 36 YEARS ... ARCHITECTS HAVE SPECIFIED

Especially for Architects!



All that the architect has always wanted in a garage door catalog! • All door spreads of this hard-bound catalog feature traceable scale drawings • All usable data needed for any door specification, cleanly presented for architects by architect consultants • All 56 pages reproduced in Sweet's "A" file • Track and pad details to scale • Inside, perspective and outside elevation drawings • Wood casing and steel jamb details to scale • Both detailed and short form specifications • Reference to special spreads on operators, low headroom, etc. included • Headroom is designated by color band. Available upon request through your local distributor of The "Overhead Door."



FACING A BRIGHT NEW FUTURE

with a FACE LIFTED by

PORC

RCHITECTURAL PORCELAIN ON STEEL



The J. C. Penney Building, Omaha, Nebraska.

Colors are ivory stipple with lower band in warm brown. Letters and vertical sign pylon also in porcelain enamel by Seaporcel.

Rorick Bros. & Associates, Omaha, Nebraska



Before SEAPORCEL

After SEAPORCEL

For J. C. Penney in Omaha, Nebraska, the transformation from a drab, dreary structure to a modern, colorful building was effected quickly and economically. A lightweight steel framework was erected on the old facade. To this flush, level surface, SEAPORCEL Porcelain Panels were quickly and easily fastened with substantial savings in time and labor costs.

Throughout the country, hundreds of old buildings are being modernized with SEAPORCEL . . . because SEAPORCEL means lasting beauty, economy of maintenance, simplicity of design and speed of installation,



Write for brochure #62

For Some Job...Somewhere... You Can Use SEAPORCEL*



SEAPORCEL also manufactures SEAPORCLAD **Insulated-Laminated Porcelain Panels**

Pictured here is a fine example of a SEAPORCLAD Curtain Wall installation.



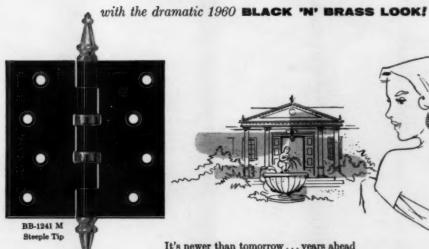
Fontbonne Academy, Milton, Massachusetts

Ideal for school construction, 22,000 square feet of SEAPORCLAD panels were used on this installation. Curtain Walls of this type vary from $\frac{1}{2}$ " to 3" in thickness, replacing masonry walls 8" to 14" thick, adding thousands of usable square feet to a building interior.

SEAPORCEL METALS, INC. 2800 Borden Avenue, Long Island City 1, New York Member: Porcelain Enamel Institute. A. F. of L. Metal Fabricat-ing and Enameling Plant.

In Canada: Seaporcel is Manufactured by General Steel Wares, Ltd., London & Toronto, Ontario. Complete erection and engi-neering departments. In other countries: inquire for name and address.

the sophisticated high-fashion hinge



HAGER Manhattan Finish available on all Butt Hinge Classes and Sizes.



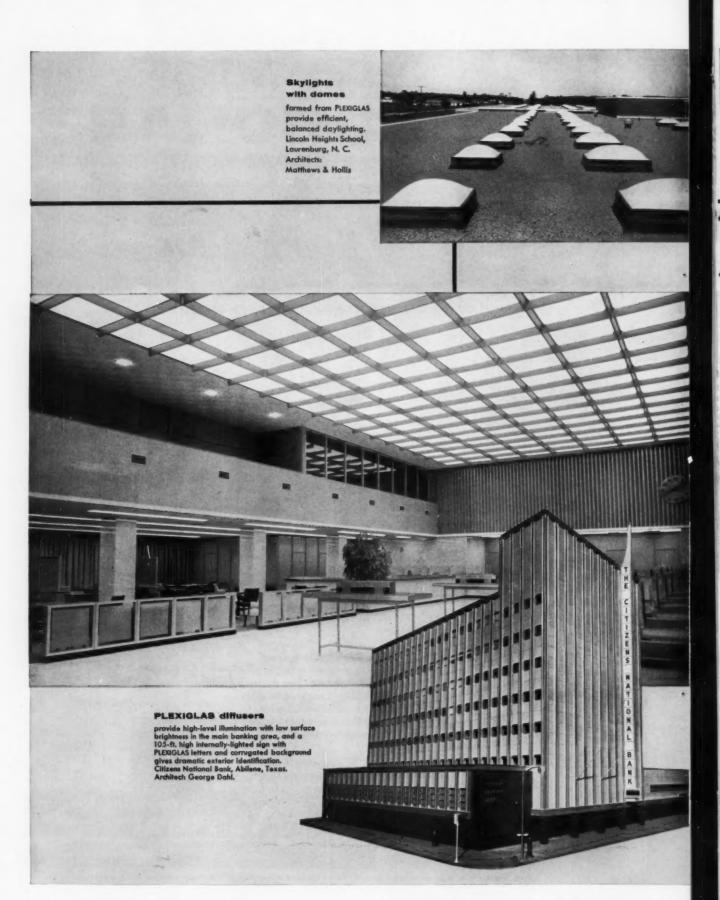
The new Hager Manhattan is designed specifically for the architect or builder who has searched until now for a hinge to give the final perfect fillip to the product of his creative skill. Here is modern hinge art, design and color that opens new vistas for hinge decor in modern architecture.

manufacture.

In superb Black 'N' Brass, the Hager Manhattan is another bright, new Hager finish to electrify the hinge world. Include it in your plans. Specify finish symbol-Mthe Hager Manhattan . . . the hinge of distinction-for contemporary homes and decor.

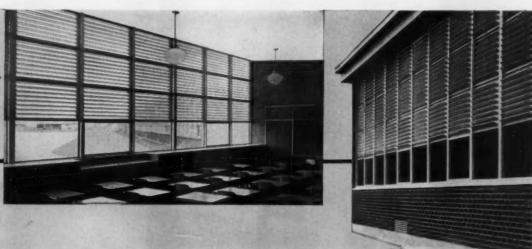


C. HAGER & SONS HINGE MANUFACTURING COMPANY ST. LOUIS 4, MISSOURI



Daylight Louver Panels

formed from PLEXIGLAS, for light transmission, daylight control, and weather closure in one continuous surface. McKinley School, Boise, Idaho. Architech Anton E. Dropping.



PLEXIGLAS

The Architectural Plastic

... for lighting ... signs ... skylights ... daylight-control glazing

It is the outstanding combination of properties obtained with PLEXIGLAS® acrylic plastic that accounts for the specification of this material for so many light-transmitting applications. PLEXIGLAS is—

Formable economically into domes, pans, spandrels, louvered panels, letters, sign faces, and corrugated sections.

Resistant to age, weather, sun and corrosion.

Strong, yet light in weight.

Efficient in the transmission and diffusion of light.

Clear, in transparent form, as optical glass.

The coupon below will bring you color samples and the names of sources of supply for building products and signs that incorporate Plexiclas.



Chemicals for Industry

ROHM & HAAS COMPANY

WASHINGTON SQUARE, PHILADELPHIA 5, PA.

Representatives in principal foreign countries

Canadian Distributor: Crystal Glass & Plastics, Ltd., 130 Queen's Quay at Jarvis Street, Toronto, Ontario, Canada.

ROHM & HAAS COMPANY Washington Square Philadelphia 5, Pa.

Please send PLEXIGLAS color samples and the names of suppliers of:

- Lighting equipment
- Dome skylights

☐ Daylight Louver Panels

Signs and letters

Наме____

Farm_

Address

(P7-5



Hospital Casework by

At Lynchburg General Hospital, Lynchburg, Va. Admin.: R. S. Hudgens Arch.: Samuel Hannaford & Sons, Pendleton S. Clark



Central Sterile Supply Room



Doctors' Records and Mail File



Patients' Room Wardrobe



Emergency Room

In the modern hospital, special equipment requirements are the rule rather than the exception. That's why when time came to select equipment for the new Lynchburg General Hospital, the choice was Casework by St. Charles.

St. Charles' quality and dependability played a

large part in Lynchburg General's decision.

St. Charles' skilled personnel and modern construction facilities are at your service-ready and able to help you meet any problem of casework or design. Your inquiries will receive prompt attention.

> A request on your letterhead will bring our 40-page catalog "St. Charles Hospital Casework





sinks and counters • special purpose units

ST. CHARLES MANUFACTURING COMPANY, DEPT. ARH-6, ST. CHARLES, ILLINOIS



Architect: Ernst Payer, A.I.A.

Photographer: Hedrich-Biessing



Redwood...for harmony in texture



Not the least of redwood's architectural virtures is its ability to combine pleasingly with other construction materials—brick, stone, concrete, glass. As handsomely illustrated in the Cleveland, Ohio estate shown here, redwood's natural beauty of grain, color and pattern will enhance both site and structure.

CALIFORNIA REDWOOD ASSOCIATION 576 Sacramento Street · San Francisco 11, Calif

> CALIFORNIA REDWOOD



Bethlehem Slabform used in constructing floors of new Philadelphia apartment building

In constructing the floors of this apartment building near City Line Avenue, in Philadelphia, shown here during construction, the builders used Bethlehem Slabform, a sturdy, permanent steel base and form for poured floors over steel joists.

Bethlehem Slabform helped to make construction both simple and rapid, resulting in savings in time and cost, and a sturdy installation.

By eliminating the sag that occurs with flexible centerings, Slabform resulted in a saving of ½ in. or more of concrete. Finishing operations could be started sooner, because of the solidity of the steel form.



Concrete leakage was prevented, greatly reducing clean-up costs. "Incipient cracking," a common cause of trouble with flexible centering, was eliminated. And because water could not run off during curing, the finished concrete was measurably stronger.

Further, Bethlehem Slabform is so rigid that it provided a safe working platform for all trades, yet could be cut to fit around openings using ordinary tin shears.

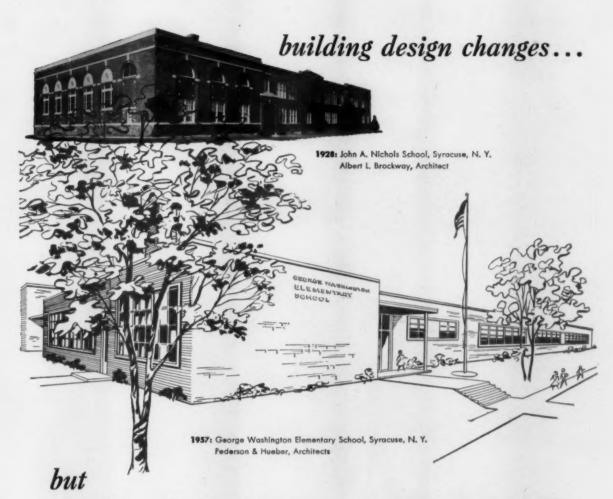
Slabform may be fastened to joist chords by any of these three methods: Bethlehem clips, self-tapping screws, or welding.

BETHLEHEM STEEL COMPANY BETHLEHEM, PA.

On the Pacific Coast Bethlehem products are sold by Bethlehem Pacific Coast Steel Corporation. Export Distributor: Bethlehem Steel Export Corporation

BETHLEHEM STEEL





KOPPERS COAL-TAR PITCH

is still the best roofing material

The John A. Nichols School in Syracuse, N. Y., was an expression of the latest thinking in school architecture when it was constructed in 1928. In marked contrast is Pederson & Hueber's recent design for the George Washington School, since it reflects the modern trend toward functional, single-story construction.

Building design certainly changes . . . but the Koppers Coal-Tar Pitch Roof is still acknowledged as the top-quality built-up roof by architects the country over. Just as the Koppers flat roof on

the Nichols School has outlived its 20-year bond by 9 years, so can clients throughout the country testify to the long, trouble-free performance of coal-tar pitch roofing materials. It's the outstanding waterproofing and self-healing properties of coal tar that make this kind of service possible.

We'd like to give you all the reasons behind coal tar's success. The Koppers representative in your area will be glad to make an appointment; or write for full information to Koppers Company, Inc., Tar Products Division, Pittsburgh 19, Pa.



KOPPERS

COAL-TAR PITCH ROOFING

District Offices: Boston, Chicago, Los Angeles, New York, Pittsburgh and Woodward, Ala. SHALLORAMA lighting as modern as tomorrow's satellite.

DaVinci, genius hat he was, might have anticipated the earth satellite project. Yet, did he was a can of highling as modern as the SHALLORAMA! Extremely shallow in appearance (21/11), this new, meticulously engineered. Autace hounted Sunha as highling Company Visionaire looks more like a custom-styled, recessed luminous cell forming an integral part of the architecture. The simplicity with which the SHALLORAMA may be installed and maintained combined with the many quality features for long, efficient life means real, modern with a sustaining outlets make his unit the perfect answer to any modernization or relighting project. Now available in two lamp width as well as four, the SHALLORAMA offers the linest lighting and the widest range of application. Write for outletin A66 to help you plan lighting which will remain as modern as the future.

QP8504-48R5, 4-lamp unit

No latches, no hinges, no visible hardware mars the beauty of the SHALLORAMA®

QP8502-48RS, 2-lamp unit



Apparent depth is only $2\frac{1}{4}$ " yet luminaire has soft, very even brightness Shallorama's unique method of heat dissipation means longer tamp life



Long-life Piexiglas diffuser opens on continuous hook-on support from either side by one hand



STABEAU LIGHTING COMPANY

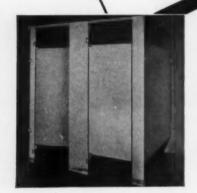
777 East 14th Place, Los Angeles 21, California

See the SHALLORAMA at the Golden Anniversary Convention of the Nat. Assoc. of Building Owners & Managers, Booth = 50.

Nicholson Metal Partitions

... strong and long-lasting
... modern, clean appearance
... ready for immediate delivery







When long life and distinctive, modern design are your aim in toilet compartments, specify Nicholson. Maximum gage metals—where you need them—assure the right combination of strength, rigidity and durability. Eliminate bending, denting and other shipping and erection problems. Check these features:

- Full 20 gage, 1" thick panels and doors
- 11/4" 16 gage pilasters, with 6-ply fibre core
- · Full 18 gage die-drawn moulding

Designs available range from ultra modern to sturdy,

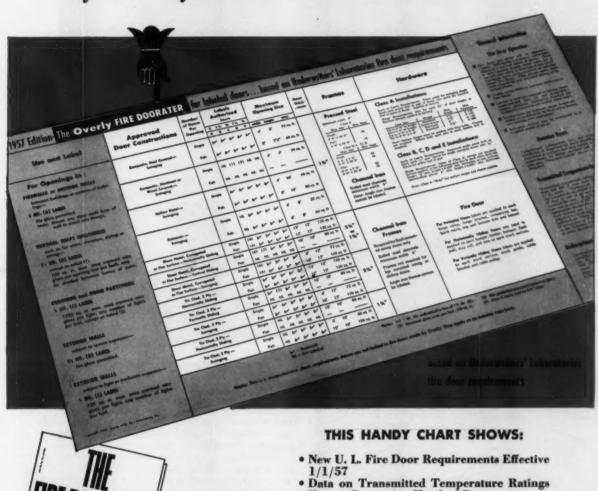
utility units. And you get a lasting finish that meets all Army and Navy requirements.

Nicholson compartments are stocked in standard styles and sizes for fast "from stock" delivery. Types available are: Type A—floor braced; Type AR—overhead braced; Type B—flush style . . . made by W. H. Nicholson and Company, 14 Oregon St., Wilkes-Barre, Pa. Sales and Engineering offices in 98 principal cities.

So, when you're writing up toilet partitions for your next job, specify . . .



The NEW 1957 FIRE DOORATER by Overly is here! Fourth Edition



- How to Determine Hand of Doors
- Hardware Location Dimensions

The FIRE DOORATER by Overly is recognized as the most complete condensation of fire door rating data ever produced. It now includes the new U. L. technique of labeling, which combines hourly ratings with letter designation of location. This new architectural tool is now ready for your desk.

Address . . .

OVERLY MANUFACTURING COMPANY

Greensburg, Pennsylvania

Send today for your FREE COPY!

One thousand contemporary homes with truly "contemporary" steel pipe RADIANT PANEL HEATING



Welding joints of steel pipe on the job for Radiant panels.



Complete Radiant panels ready for testing.

Gone are the attics and cellars and the in-between-floor inadequacies of yesterday in today's home building . . . replaced by contemporary designs with refreshingly new concepts of comfort and livability. Implementing these changes are wonderful new materials, construction methods, home equipment . . and "invisible" radiant panel heating systems so perfectly suited to the modern building concept.

More than a thousand contemporary homes, by one builder alone, in the St. Louis area include steel pipe radiant heating systems that provide completely concealed radiation, more comfortable draft-free heat, unobstructed floor space and greater cleanliness.

Reliable, durable steel pipe has been the choice of this builder for all radiant heating systems in these \$13,000 to \$35,000 homes . . . standard since his first highly successful steel pipe radiant heating installation in 1947.

Yes, Steel Pipe is first choice for radiant heating, snow melting, fire sprinkler systems, plumbing, power, steam and air transmission lines. In fact, it is the most widely used pipe in the world!

Write for the free 48 page color booklet "Radiant Panel Heating with Steel Pipe".

Committee on

Steel Pipe is First Choice

STEEL PIPE RESEARCH

AMERICAN IRON AND STEEL INSTITUTE 150 East Forty-Second Street, New York 17, N.Y.



I NEED A NAME!

I'm your new LUMEN-ATIONS friend, from the sunny shores of far-away and long-ago Greece, and I'm a direct descendant of the famous old Diogenes.

After looking everywhere for the world's finest incandescent lighting line, I finally found it— at Guth. So I've gone to work as a silent salesman for Guth, and you'll be seeing a lot of me—in national ads, literature, premiums, point of sale material, conventions, in all sales promotion and merchandising campaigns, pointing out the features and qualities of the Guth Brascolite incandescent line.

There's just one thing wrong—I don't have a name! Will you help name me, please? Just send in your suggestions—as many as you wish—to the Guth address below. The senders of the five best names will each receive...

φιάλην του οίνου

(a bottle of Metaxa, an excellent Greek brandy)

Quality is the word for this new Guth Brascolite incandescent fixture line with Alzak aluminum reflectors. Stylish design, sound engineering, efficient function . . . a real boon to the architect, electrical

LIGHTING FIXTURES

engineer and all who specify lighting.

And here's another terrific working tool-the new Brascolite catalog. Contains everything you need to

figure any incandescent lighting job. Write today on your letterhead for your complimentary copy.



The EDWIN F. GUTH COMPANY

2615 Washington Blvd., St. Louis 3, Mo.



Geography class now...class conference next...P.T.A. party tonight...maybe a library next month! Modern rooms must be *flexible* to meet needs like these. And Brunswick furniture makes them so. Chairs, desks, tables and cabinets can be rearranged in moments. Your rooms are always ready for next hour...or next year!



Brunswick Flexibility-your best





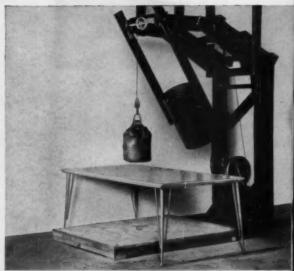
Here's flexibility in action. Brunswick furniture stores, stacks, moves and groups in moments to accommodate changing classroom needs and modern teaching methods. Each piece has many exclusive features. Your Brunswick representative will gladly explain them in detail.



Rooms serve many more purposes with Brunswick flexible folding equipment. Folding stage (above) makes any area a theater in minutes. Folding gym seating ends the necessity for temporary seating. Folding partitions divide rooms instantly. Here's new flexibility tailored to your requirements!



Any student, teen to tot, can easily move these cabinets on wheels. Designed to use individually or combine...into a room divider or mobile book center, for example. Deep shelves have generous storage space. These handsome, functional cabinets go where you need them...when you need them!



There's no sacrifice of strength and durability in order to bring you Brunswick flexibility. Rigid construction and quality materials cut maintenance costs to an absolute minimum. You get all the reliability for which Brunswick has been famous for 112 years.

investment...today and for years to come



From classroom to library to teacher's lounge... Brunswick has the most complete line of school equipment in America. For basic flexibility and lasting durability... for careful individual attention to your specific needs... for functional beauty with a future... your wisest investment is Brunswick!

Today's school equipment has two basic functions: to make limited space work harder...and limited budgets stretch further. Brunswick does both.

As the acknowledged leader in flexible design, Brunswick makes space serve more uses, more hours per day, than other lines. And Brunswick's exclusive durability features keep maintenance costs to a minimum.

That's why today . . . and for years to come . . . Brunswick is your best investment. See your representative, or write to The Brunswick-Balke-Collender Company, 623 South Wabash Avenue, Chicago 5, Illinois.

Brunswick
One line continues to set the pace ... it's BRUNSWICK

You get more than noise reduction

Architest. Benedict Ade & Associates; General Contractor: Robert F. Hyland & Sons, Inc.; Gold Bond Plastering Contractor: Byrnes Plastering Co., all of Rochester, N. Y.





with Gold Bond PERFOLITE ACOUSTICAL PLASTER

- . HIGH LIGHT REFLECTION
- . FIRE RESISTANCE
- · EASY MAINTENANCE

When Perfolite was specified as the plaster finish for 2000 yards of ceilings at Hilton Central Primary School, Hilton, N. Y., the school got more than just acoustical treatment. Perfolite provided high light reflection, fire resistance, easy maintenance features, as well.

Its natural white color has a light reflectance rating of 80% when stippled and perforated. Because Perfolite is made from lime bound with mineral fibres it cannot burn to support combustion. Its surface may be vacuum cleaned, or lightly brushed to remove dust and dirt. And if a change of color scheme is desired, Perfolite may be repainted with up to six coats of water-thinned paint—with no loss in sound absorption.

Unlike many other acoustical plaster finishes, Perfolite is immune to high humidity conditions—may be applied in damp areas like interior swimming pools and kitchens. This acoustical plaster is easily applied with a trowel. Its noise reduction coefficient of .60 is secured by stippling and perforating the surface.

For more information, write National Gypsum Company, Dept. AR-67, Buffalo 2, New York.

PERFOLITE ACOUSTICAL PLASTER

NATIONAL GYPSUM COMPANY



working with the architect on today's important school lighting projects . . .



WEST PENSACOLA HIGH SCHOOL Florida's newest and largest.

Architect: FRANK J. SINDELAR, A. I. A Pensacola, Fla.

Consulting Engineers: EVANS & PHILLIPS, Birmingham, Ala.

Contractor: DYSON & CO., Pensacola, Fla.

Electrical Contracting: BAROCO ELECTRIC CONSTRUCTION CO., Pensacola, Fla.

R-113-R

the Capri's unique low-brightness illumination meets the high classroom lighting recommendations of the Illuminating Engineering Society . . . and even anticipates future increases and improvements in these practices. Benjamin Electric Mfg. Co., Des Plaines, Ill.

BENJAMI

. . . always the source of good lighting

When building



or

both the ear



For better sound control, and appearance—install acoustical ceilings with Securitee Mechanical Suspension Systems.

Acoustical ceilings are as important as electrical fixtures, plumbing or heating in any building. Here's why:

- They control the noise level . . . making quieter working conditions and more efficient workers.
- They are pre-finished in a wide selection of fissured, perforated or textured patterns (eliminating ceiling painting or decorating).
- They eliminate ceiling plastering—meaning less moisture to dry out during construction . . . saving time and money.
- Securitee offers six systems of installation for acoustical ceilings—no need to "shop around"—there's a Securitee System for every type of installation—and it is the finest.

Write for complete information, or see Sweets Architectural File.

W. J. HAERTEL & CO. The largest and most complete line of Mechanical Suspension Systems.

832 WEST EASTMAN STREET . CHICAGO, ILLINOIS

West Coast Distributors FREY & HAERTEL, INC. 560 Ninth Street, San Francisco, Calif.

remodeling

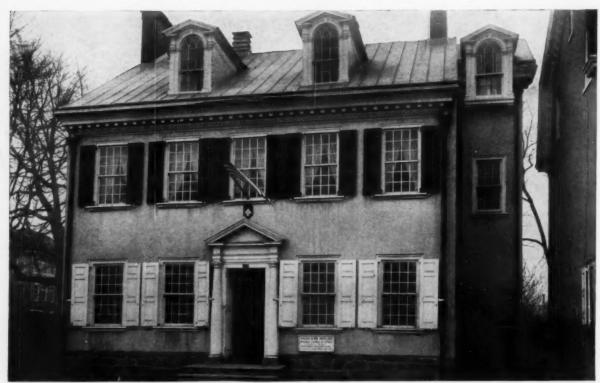


consider

and the eye* 4



*for the best in Appearance and the finest in Quality-specify and insist on Securitee Systems SecuriTee & G system Securitee Line Leaders since 1946

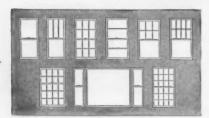


Morris House, built in 1772, located in Germantown, Pennsylvania, is the oldest White House still standing. President Washington moved into it on November 17, 1793.

Architecturally Morris House is Chiefly Notable for Its Double Hung Wood Windows



Relative inexpensiveness permits generous use of double hung wood windows with metal



An endless variety of design can be achieved with double hung wood windows. They are easily shaped and their surface receives and holds any type of finish.

Morris House is a singularly gracious house and has that easy formality so characteristic of its century. On November 17, 1793, Washington took up official residence here; and, on the 18th, met with his cabinet to discuss our neutrality in the hostilities between Great Britain and France. The Cabinet—Jefferson, Hamilton, Knox and Randolph—met again with Washington on November 21.

Here is a house full of things to see. Architecturally, for example, the 24-paned double hung wood windows impressively add character and dignity to this Historic American Home. These same basic type windows used extensively in homes today, have the added advantage of being equipped with spring sash balance or other modern type balances and metal weatherstripping. In addition to providing more light and beauty, they efficiently seal out cold, dust and dirt to assure comfortable, clean living.

Architects, builders and dealers, may we suggest that you give prime consideration to recommending and using the type windows that have proven to be by far the best in cost, quality and durability ... metal weatherstripped double hung wood windows.

WEATHERSTRIP Research INSTITUTE

OFFICE OF THE SECRETARY, BOX 128-RIVERSIDE, ILLINOIS

MEMBERS:

ALLMETAL WEATHERSTRIP CO.
BARLAND WEATHERSTRIP MATERIAL CO.
CENTRAL METAL STRIP CO.
CHAMBERLIN CO. OF AMERICA
DENNIS & CO., W. J.

DORBIN METAL STRIP MFG. CO.
GARDMER WIRE CO.
MACKLANBURG-DUNGAN CO
MASTER METAL STRIP SERVICE
MORARCH METAL WEATHERSTRIP CORP.
NATIONAL GUARD PRODUCTS, INC.
NATIONAL METAL PRODUCTS, CO, INC.

MICHOLS METAL STRIP SERVICE PEMKO MFG. CO. PRECISION WEATHERSTRIP CO. REESE METAL WEATHERSTRIP CO. SOUTHERN METAL PRODUCTS CORP. WARNICA PRODUCTS PECERBELMS.

A New

Heating-Ventilating System at Unusual Low Cost.

Julcan

NOVENTILATOR for Classrooms

the Quality

The LINOVENTILATOR System meets all the exacting requirements for schoolroom heating-ventilating.

It has been designed for economy, efficiency and functional beauty, with remarkable savings in installation and operating costs. This has been made possible by unique Vulcan engineering that introduces an entirely new concept in heating and ventilating.

- NO DAMPERS REQUIRED LOW INSTALLATION AND OPERATING COSTS ELIMINATES NEED FOR AUXILIARY RADIATION
- . SIMPLIFIED AUTOMATIC CON-
- LOW MAINTENANCE COST NO WIND "BLOW-THROUGH"

Write for FREE 8-page Catalog Today

The VULCAN RADIATOR CO.

775 Capital Avenue Hartford 6, Conn.

At no obligation, please forward me your FREE 8-page LINOVENTILATOR Catalog.



Radiator Co.

775 CAPITOL AVENUE, HARTFORD 6, CONN.

Rusted-out LOS ANGELES COUNTY GENERAL HOSPITAL—one of the

IN LONG RUNS LIKE THIS installation is speedier because there are fewer fittings with Revere Copper Water Tube. And, due to its lightness there is no support problem. 3,200 feet of Revere Type "K" Copper Tube, in sizes of 2", 3", and 4" were used in the drainage lines.

country's largest—contains what is said to be the first Copper Drainage System of its kind west of the Mississippi.

drainage lines replaced

with enduring

REVERE COPPER TUBE

· without interruption of kitchen service · at less cost than a duplicate, rustable drainage line

Revere Copper Tube was made to order for this job. Not only will it prevent future rust trouble, but the kitchen continued to have drainage service. For, with Revere Copper Tube, using solder fittings, it was possible to run a line right alongside of the failed line . . . something which the plumbing foreman on the job said would have been virtually impossible had the line been replaced with duplicate, rustable drainage material.

This was because the small amount of space in the tunnels through which the lines ran would not permit sufficient room to caulk the joints, while the solder joints used with Revere

Copper Tube were readily made.
In addition, D & D PLUMBING & HEATING CO., of Bell Gardens, California told us that the Revere Copper Tube drainage line was fabricated and installed for a lower price than would have been the case had standard drainage material been used. Here are the reasons why:

1. Revere Copper Drainage Tube is easier to handle, weighing, with fittings, only about 1/4 as much as ferrous materials.

2. Revere Copper Drainage Tube comes in standard 20' lengths so fewer joints are needed on long runs.

3. Revere Copper Drainage Tube and fittings are installed by a simple soldering operation. No caulking or threading, and soldered joints are water and gas-tight. No wrench-space worries.

4. Revere Copper Drainage Tube Assemblies can be pre-

fabricated in the shop or on the job with no danger of weakening joints when handling, thus saving time and costs.

5. Revere Copper Drainage Tube requires less space in walls. No wide walls or build-outs. Where 3" vent stacks are permitted, they will fit inside a standard 4" stud partition.

6. Revere Copper Drainage Tube is gun-barrel smooth inside and out, frictional resistance to flow is low, and clogging due to corrosion or waste build-up is virtually non-existent.

These same features, which are inherent in various types of Revere Copper Water Tube, make it the preference of contractors, architects and engineers for radiant panel heating, hot and cold water lines, underground service lines and processing lines. See the Revere Distributor nearest you for your needs.

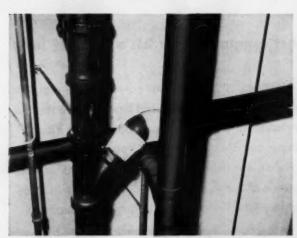
REVERE COPPER AND BRASS INCORPORATED

Founded by Paul Revere in 1801 230 Park Avenue, New York 17, N. Y.

Mills: Baltimore, Md.; Rome, N. Y.; Chicago, Clinton and Joliet, Ill.; Detroit, Mich.; Los Angeles and Riverside, Calif.; New Bedford, Mass.; Brooklyn, N. Y.; Newport, Ark.; Ft. Calbonn, Neb. Sales Offices in Principal Cities, Distributors Everywhere.



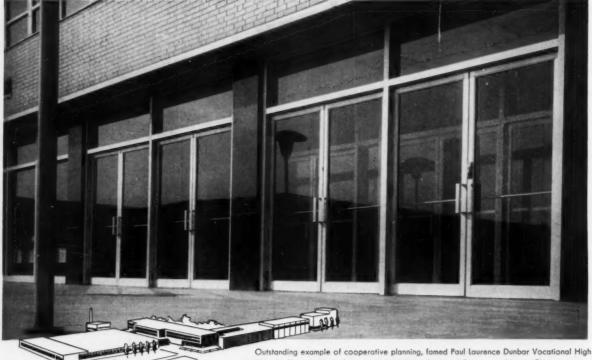
IT'S IN CLOSE QUARTERS LIKE THIS that Revere Copper Water Tube really shines. For the solder fittings used require no wrench space and its small sizes make installation of Revere Copper Water Tube, in the tightest cerners, a cinch. The Revere Tube on this job was supplied to the D & D PLUMBING & HEATING COMPANY of Bell Gerdens, Celifornia by AMSTAN SUPPLY DIVISION OF AMERICAN-STANDARD, Los Angeles



OLD KITCHEN DRAINAGE LINES with new Revere Copper Tube installed alongside. Because the kitchen was in use almost 24 hours a day, the drainage lines took a severe beating. Result: stoppages often occurred and a snake had to be used repeatedly. Holes were eventually poked through the pipe and had to be covered with tape and tar to prevent leakage. With smooth-finish Revere Copper Water Tube frictional resistance will be low and clagging due to corresion or waste build-up practically impossible.



overhead concealed door closers



School, Chicago Public Schools. Holabird and Root and Burgee, architects, Chicago.

THE ONLY FITTING CLOSER

for shallow head jambs like these!



the most compact - only 2\%"x 2\%"x 17" long

with complete control of opening and closing action BUILT-IN

two independent closing speed adjustments—one controlling the closing speed from open to 15°, the other from 15° to closed position.

built-in door holder-where specified, holds door at any one choice of four positions.

hydraulic shock absorber (back-check) absorbs the force of violent openings.

spring cushion door stop-door is cushion stopped" at choice of any one of four positions.

These RIXSON no. 225 closers not only meet the requirements of narrow style head jambs but have ample power to dependably control heavy entrance doors under all conditions. Being completely concealed, no mechanisms or protruding arms are exposed to be tampered with or mar the appearance of the modern entrance. Available in three sizes for both center hung and butt hung installations.

Write for complete details and template information.

9100 west belmont avenue • franklin park, illinois

CANADIAN PLANT: The Oscar C. Rixson Co. (Canada) Ltd. 43 Racine Rd. • Rexdale, Ontario

America is entering the ceramic tile age



Architects: Ferrenz and Taylor. Tile Contr.: A. Tozzini Tile Works, Inc. Plate No. 319.



Architect: Julius Gregory. Tile Contr.: Robert Chuckrow. Plate No. 143.





Designer: J. Gordon Lippincott. Tile Contr.: National Tile and Marble Corp. Plate No. 247.



Architects: Louis A. Oliver and Herbert L. Smith III. Tile Contr.: Ferrell Linoleum and Tile Co., Inc. Plate No. 454.

Architectural spirit preserved in Mosaic Ceramic Tile

Glazed Wall Tile-a basic material to be considered in almost every type of structure—is usually specified for interior walls and counter fronts. It is also suitable for exterior surfaces in non-freezing climates. Rich color and dramatic scale (sizes range up to 9" x 6" x 1/2") make the Mosaic line of glazed wall tile a particularly challenging medium for today's designers.

The Mosaic Harmonitone palette of 36 satin-matt glazed colors is scientifically color-calibrated so that all colors are compatible—a palette conceived in answer to the designer's request for a color tool of wide latitude. In addition to the satin-matt Harmonitone series, there are 20 Bright Glaze colors, designed to correlate with the plumbing fixtures of leading manufacturers. (A recent survey showed these highgloss colors to be the most popular for bathrooms and



Architects: Burke, Kober and Nicholais, Tile Contr.: Beverly Hills Tile Co. Plate No. 380

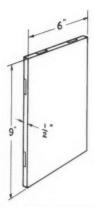
Made from a blend of selected clays, Mosaic Glazed Wall Tile has specially-designed cushion edges to assure fine finished surfaces and integral spacers that automatically provide close uniform joints. Like all ceramic tile, glazed wall tile is fadeproof, easy to clean, a pleasant and practical material for home and major building alike.

Other types of tile for wall use include Formfree* decorated units, decorated inserts and strips and a complete line of All-Tile Accessories in the same color glazes as wall tile. All necessary trim for any installation is available in matching colors.

The complete Mosaic line of ceramic tile also includes ceramic mosaics, Carlyle Quarry Tile, Everglaze (textured hard glaze tile), and Faience.

Floors and Walls of Mosaic Ceramic Tile will contribute to a greater return on your clients' building investment. Maintenance cost is less than with any other material-in many cases by as much as 50%. And the original investment is reasonable.

With our recently expanded manufacturing and distribution facilities, we can fill your tile requirements promptly. A broad selection of tile is carried in stock locally in the Mosaic warehouses listed below. You and your clients are welcome to make full use of our showrooms and those of your tile contractor.



Mosaic 9" x 6" x 1/2" Glazed Wall Tile-available in all Harmonitone satin-matt and Bright Glaze colors. No expensive special trim needed. Competitive in first cost with glazed structural units. Requires only lowest-cost substructure. Installed by either conventional or thin-set method. Trim shapes available for both horizontal and vertical setting.

Mosaic Glazed Wall T	file Sizes
9" x 6" x 1/4"	6" x 4¼" x ¾"
6" x 6" x ¾"	6" x 3" x 3%"
4¼" × 4¼" × ¾"	

The complete glazed wall tile color palette of 36 Harmonitone satin-matt and 20 Bright Glaze colors appears in the Mosaic Tile Workbook for Architects, Form No. 218, in Sweets. For additional data, write The Mosaic Tile Company, Dept. A, Zanesville, Ohio, or The Mosaic Tile Company, Dept. A, 829 N. Highland Ave., Hollywood 38, Calif.

Ask for: Mosaic Tile Workbook for Architects—Form No. 218 Buildings of Today-Form No. 208

The Mosaic Tile Book of Beautiful Homes-Form No. 195 Mosaic Tile Selection Guide (popular, most readily available colors East of the Rockies)-Form No. 186

The Choice of the Coast (popular, most readily available colors West of the Rockies)-Form No. 179

9" x 6" x 1/2" Glazed Wall Tile Folder-Form No. 187 Formfree* Decorated Wall Tile-Form No. 151

^{*} Copyright 1951 by The Mosaic Tile Company



THE MOSAIC TILE COMPANY

For free estimates on Mosaic Tile, see the yellow pages for your Tile Contractor, Ceramic

America's largest ceramic tile manufacturer Member—Tile Council of America, Inc. and The Producers' Council, Inc.

Showrooms, warehouses and factories from coast to coast

Showrooms, warehouses and factories from coast to coast:

Showroom-Warehouses: Atlanta, Baltimore, Boston, Buffalo, Chicago, Cleveland, Corona, Cal., Dallas, Denver, Detroit, El Segundo, Cal., Fresno, Greensboro, E. Hartford, Hempstead, L.I., N.Y., Hollywood, Ironton, Ohio, Jackson, Miss., Little Rock, Matawan, N.J., Miami, Milford, Conn., Milwaukee, Minneapolis, New Orleans, New York (Showroom only), Philadelphia, Portland, Rosemead, Cal., Salt Lake City, San Antonio, San Diego, San Francisco, Santa Clara, Cal., Seattle, Tampa, Washington, D.C., Zanesville, Ohio.

Representatives: Birmingham, Cincinnati, Kansas City, Oklahoma City, Pittsburgh, St. Louis.

Factories: Zanesville and Ironton, Ohio; Matawan, N.J.; Little Rock, Ark.; Jackson, Miss.; Corona and El Segundo, Cal.

From foundation to tower, this church is of all-masonry design. It was laid out on 8" modules, permitting the use of standard block without special shapes or sizes. A wide range of effects was obtained, however, by laying the block in a variety of patterns... random ashlar, running bond, vertical stacking, etc. Because of the great block strength necessitated by an edifice of this type, the exterior MONUMENTAL BLOCK was made of sand and gravel concrete. This block has a thicker face shell which greatly increases the tensile strength. It has an average compressive strength of 3,300 psi gross area. The expanded-clay MONUMENTAL BLOCK for the interior was made to supply an average of 2,200 psi gross area. The all-masonry concept of the building was completed by laying floors of soffit block topped by two inches of poured concrete.

Built for the

FIRST CONGREGATIONAL CHURCH OF ALPENA

Edward F. Jansson, A.I.A. Chicago, Illinois

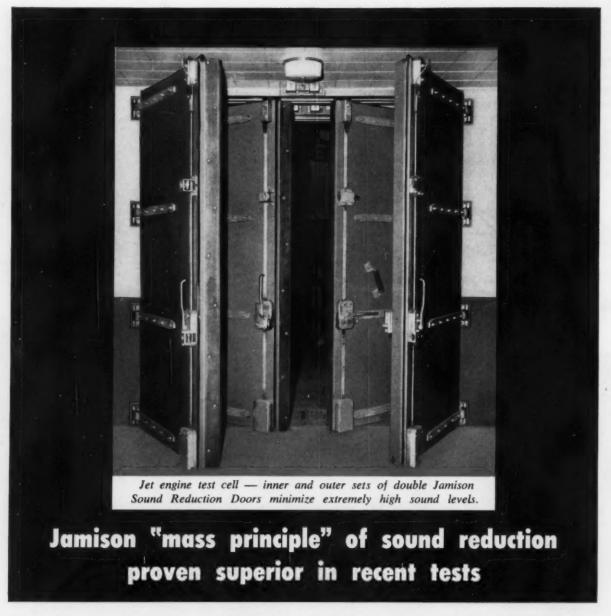
ALL-VIBRAPAC BLOCK CONSTRUCTED

To meet the requirements of simplicity, tranquility and durability, this remarkably beautiful structure was erected entirely of Vibrapac Concrete Block as basic building material. Ruggedly majestic, yet with simple lines, the exterior beauty of this church has occasioned many favorable comments. It is in the interior, however, that the full beauty of the all-block design is even more apparent. Here the soft, shadowy tones of the acoustical block convey a feeling of dignity and meditation that forms an appropriate background for the contrasting warmth of colorful woodwork, draperies and windows.

A new wall chart showing 50 attractive block wall patterns is now available. Write for your free copy on your company letterhead.



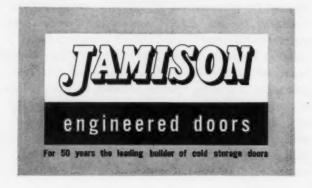
BOX 173, ALPENA, MICHIGAN, U.S.A.



Tests conducted on Jamison Sound Reduction Doors by a nationally recognized laboratory, have shown conclusively that Jamison's weight per unit area is the main factor in effectively minimizing sound transmission through a structure.

Tests conducted in accordance with "Recommended Practice for Laboratory Measurement of Airborne Sound Transmission Loss of Building Floors and Walls" No. E 90-50T, ASTM, proved conclusively that these doors provide an average sound reduction of 50 db. for single doors, and 49 db. for double doors. Tests were run over 11 different frequencies ranging from 125 to 4000 cps.

When the solution to a noise control problem calls for a door capable of reducing sound by an average of 50 decibels, Jamison Doors can meet that requirement. Write for Bulletin and test data for specific reductions at specific frequencies. Jamison Cold Storage Door Co., Sound Reduction Door Div., Hagerstown, Md.



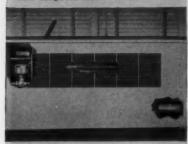
Board room of the Board of Trustees



Typical Executive Office



Modern air conditioned drafting room for both plant design and mechanical equip-



Powers Thermostat and PACKLESS valve controlling chilled or hot water cails in air conditioning unit. Packless valve prevents water leakage and requires no packing maintenance.

Powers Recording-Controller provides chart performance records of control system.



New Administration Building

Metropolitan Sanitary District of Greater Chicago

Architects: Philip B. Maher and Frank L. Finlayson
Engineers: Sanitary District Engineering Staff

Contractor: Paschen Bres., Inc. . Air Conditioning: Carrier Contracting Corp.



POWERS

air conditioning control system

helps provide ideal indoor climate with lowest operating and maintenance cost

The Metropolitan Sanitary District was acclaimed by the American Society of Civil Engineers: "One of the Seven Engineering Wonders of America."

The Stickney Treatment Works, one of its three major sewage treatment plants, is the world's largest and it is still expanding

Administration and engineering of this large organization is centered in the fine modern building shown above. Mechanical equipment here is the best obtainable and it has been well engineered with close attention to important details. Year 'round air conditioning is provided by separate perimeter and interior systems.

In the perimeter areas, air conditioning units are served by a high pressure conduit system. Thus occupants in each individual space may select the temperature desired by adjusting the Powers thermostat inside the unit. Interior zones are supplied with conditioned air from ceiling diffusers. Here, too, Powers controls automatically adjust temperature to the requirements of occupancy and outside

Consult Powers when you have temperature or humidity control problems for new or existing buildings. You can always benefit from Powers experience gained in all types of buildings,



THE POWERS REGULATOR COMPANY

SKOKIE, ILLINOIS

Offices in chief cities in U.S.A., Canada and Mexico

65 years of Automatic Temperature and Humidity Control

OF THE NEW



KENTUCKY FAIR & EXPOSITION CENTER





A complete installation service is available. For name of nearest Franchised Acoustical Contractor, call the Reynolds office listed under "Building Materials" in classified phone books of principal cities. For literature, write to Reynolds Metals Company, Building Products Division, 2015 South Ninth Street, Louisville 1, Kentucky.

... SOUND-CONDITIONED WITH

ReynoCoustic

This 125,000 square foot installation consists of ReynoCoustic Pyramid Grid Pans in 4-foot squares set in alternating direction of pattern.

The photograph attests the handsome appearance of this ceiling. The practicality of the movable panels, for access to utilities, is obvious. Aluminum's freedom from rust and resistance to corrosion assure lowest maintenance. Its incombustibility earns the U.L. label. And these advantages are all in addition to maximum noise reduction!

You can now get all these benefits in five types of ReynoCoustic—the original Long Span corrugated panels, Pyramid Panels, Pyramid Grid Pans, Snap-In Flat Pans, and Lay-In Flat Pans. Installed cost is low. Write for details.

See "Circus Boy", Reynolds dramatic adventure series, Sundays, NBC-TV Network.

REYNOLDS 2 ALUMINUM

BUILDING PRODUCTS



economical shower combining the Monterey floor with a glass filler panel and door forming the front. Either hinged or sliding doors, by others, may be used as the solid threshold provides a convenient foundation for the track.



FIAT METAL MANUFACTURING CO. 9323 Belmont Avenue, Franklin Park, III.

Please send complete informatio on your complete line of shower equipment.

a
ø

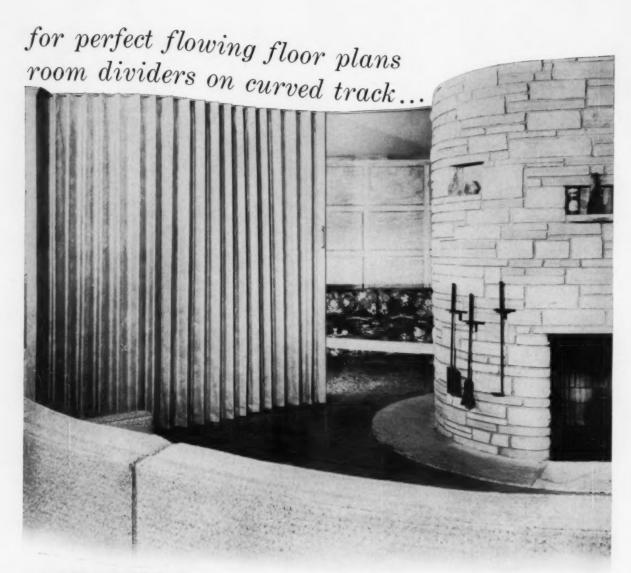
FIAT METAL MANUFACTURING CO.

Since 1922...First in Showers | Packaged Showers * Doors * Floors | Toilet Room Partitions

FOUR COMPLETE PLANTS: Long Island City 1, N. Y.; Franklin Park, III.; Los Angeles 63, Calif.; Orillia, Ontario, Canada

City___

Type of Business



by Curtition...

Makers of Quality Folding Doors Covered in TOLEX®

Flexible folding doors permit quick, practical partitioning of any area. To be sure these smart modern room dividers will withstand years of flexing without cracking or peeling, be sure they're made of TOLEX... the finest quality supported vinyl covering material. There are TOLEX colors, patterns and effects to fit any interior decorative scheme... all easily cleaned with a damp cloth.

When specifying folding doors and room dividers, be sure they are covered in TOLEX...like this famous Royalfold door by CURTITION Corporation, Los Angeles, California.

REMEMBER! MAJOR MAKERS OF FOLDING DOORS USE TOLEX...

for their names, write:

THE GENERAL TIRE & RUBBER COMPANY

TEXTILEATHER DIVISION

Toledo 3, Ohio





are your pencils as sharp as your perspectives?

Efficiency reaches the vanishing point when you work with an inferior pencil-but hits a new high when you pick up an Eagle TURQUOISE. This is the pencil that tops 'em all for crisp drawings and reproductions, and these are the reasons: 1. It gives you uniform grading (17 scientific formulas guarantee exactly the blackness you want-from every pencil, every time!). 2. It takes a strong non-crumbling needle point that stays sharp for line after long line of unchanging width. You get inimitable smoothness—thanks to Eagle's exclusive "Electronic" graphite. TURQUOISE makes your arspectives look sharp—and you, tool

> WRITE FOR FREE SAMPLE Turquoise wood pencil and Cleantex Eraser, naming this magazine-or buy any of these drawing instruments from your favorite dealer.

AGLE "CHEMI & SEALED" TURQUOISE DRAWING

• TURQUOISE DRAWING PENCILS: With 100% ""Electronic" graphite. 17 grades, 6B through 9H.



• TURQUOISE CLEANTEX ERASER: Super-soft, non-abrasive rubber.



• TURQUOISE DRAWING LEADS: Fit any standard holder. Grades 5B through 9H

EAGLE TURQUOISE 3379

• TURQUOISE LEAD HOLDERS: Hold any grade of Turquoise lead—so firmly that lead cannot be pressed back.

EAGLE TURQUOISE LEADS AND HOLDERS

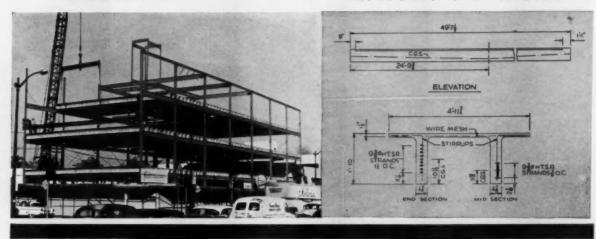
are the largest-selling in the United States!

EAGLE PENCIL COMPANY . NEW YORK . LONDON . TORONTO . MEXICO . SYDNEY . BOGOTA



Prestressed concrete floor members with deflected strands were used in this Beverly Hills, California, 4-story office building. Steel plates cast in the concrete members were welded to the steel frame, so that the floor system serves as a diaphragm to stiffen the entire structure.

Each double-tee floor section is five feet wide x 22 in. deep and prestressed with 18 Roebling % in. diameter 7-wire uncoated stress-relieved prestressed concrete strands. A 2 in. poured-inplace slab on top of the precast section completes the structure. The 49-foot span is designed for 50 pounds per sq ft live load, plus 20 pounds per sq ft for walls and partitions.



Architects and Engineers
Cejay Parsons and Jack H. MacDonald

General Contractor Jack H. MacDonald Co., Inc.

Prestressed Concrete Double-Tee Floor Sections fabricated by Rockwin Prestressed Concrete Corporation Norwalk, California

Deflected Strands
Increase Scope of
Precast Prestressed
Concrete

New technique permits longer spans with shallower and lighter beams; opens new areas for application of modern construction medium

Recently developed methods have added new impetus to the rapidly increasing use of precast pretensioned bonded prestressed concrete.

One of the most important of these new developments is deflection of the strands. This substantially increases the strength and bending resistance of a member without increasing its size.

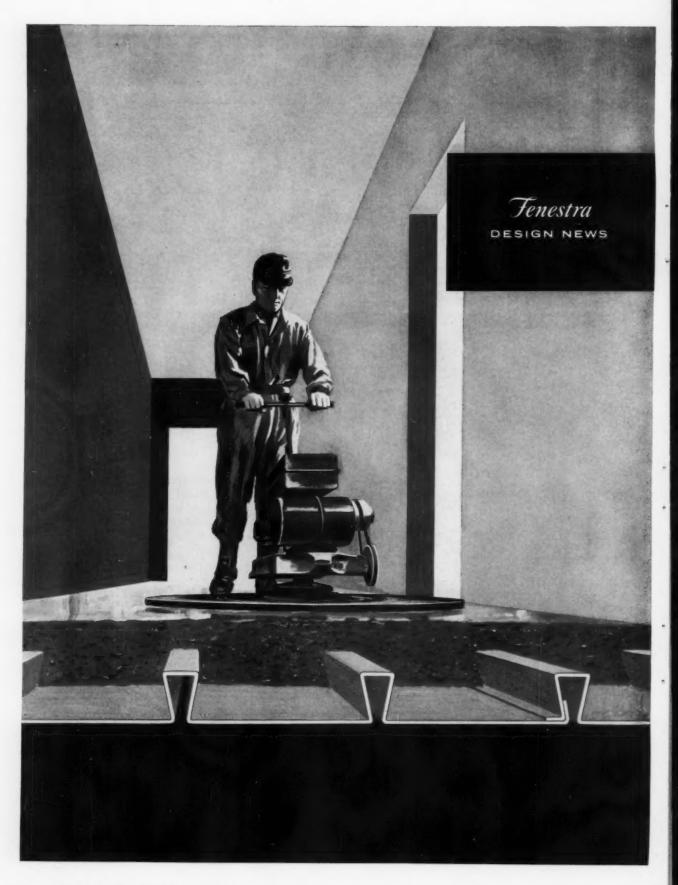
A typical example is the 49 ft 7½ in. span floor system in the building illustrated above, using double-tee beams only 22 in. deep. Units for this span and load would have had to be much deeper and heavier if the prestressed strands were not deflected.

For data on tensioning elements and general information on prestressed concrete, write Construction Materials Division, John A. Roebling's Sons Corporation, Trenton 2, New Jersey.

Consult Roebling First . . . First in the U.S. with prestressing and tensioning elements

ROEBLING

Branch Offices in Principal Cities
Subsidiary of The Colorado Fuel and Iron Corporation





How Fenestra Holorib Reinforcing Forms

SAVE TIME AND MONEY ON CONCRETE CONSTRUCTION

For concrete slab construction, Fenestra* Holorib Reinforcing Forms speed up your building, reduce fire hazards and save money on reinforcing steel. This multi-purpose building product gives you three important advantages.

First, it is quickly and easily erected for the entire structure as soon as the steel framework is in place. It gives you immediate working platforms and protective staging for all trades. You reduce fire hazards during building because Fenestra Holorib Reinforcing Forms are completely incombustible. No shoring is required for 8-foot spans and shoring at mid-span only for longer spans and deeper slabs.

Second, Holorib Forms on typical spans provide all the structural reinforcing needed, eliminating the cost and placing time of reinforcing rods. The unique pyramidal ribs key into the concrete for a positive mechanical bond combined with a chemical bond

between the galvanized steel and concrete. For example, a floor slab only 3 inches thick with Holorib Reinforcing will carry up to 120 pounds per square foot live load on a 10-foot span.

Third, the tight joints of Holorib Reinforcing Forms reduce concrete dripping to lower floors and save time and money on cleanup. Finish ceilings or service fixtures are easily attached into the rib slot.

Add up your savings on labor and materials plus faster completion and shallower floor depth. Compare them with the reasonable cost of Holorib Reinforcing Forms. You can see that this is the most economical system for reinforced concrete slab construction. Let your local Fenestra representative show you how much you can save on your next job. Call him, todaylisted in the Yellow Pages-or mail the coupon below for your FREE copy of the 1957 Fenestra Building Panel Catalog containing complete information.

*Trademark



Your Single Source of Supply for BUILDING PANELS . DOORS . WINDOWS

Fenestra Incorp	perated
Dept. AR-6, 2252 Ea	
Detroit 11, Michigan	
	ete information on Fenestra Holorib r concrete construction.
NAME	
NAMEFIRM	



LOOK WHAT FENESTRA WINDOWS DO FOR MODERN SCHOOL DESIGNS!

Fenestra* Intermediate Steel Windows are selected by architects and school officials for many of the finest and best-looking schools in America. The reason is not appearance alone.

They provide more and better daylight for school classrooms. Their slim, but strong, steel sections give you more glass area and clear-vision view per window opening. Fenestra Windows are engineered and precision built to be rigid and rugged without excess bulk.

You get better ventilation, too. Project-out vents form weather-protective canopies over the openings. Tilt-in vents bring in abundant fresh air without drafts . . . shed rain outside. All vents open smoothly and easily with a finger touch.

You save on maintenance. Sturdy hardware and steel-strong window members assure years of

trouble-free service. Cleaning and screening are done safely and economically from the inside!

New Fenestra FENLITE Finish

Fenestra Intermediate Windows are now available with the New FENLITE Finish that gives longer window life without painting plus a distinctive new window beauty. The FENLITE process is an exclusive Fenestra development based on years of experience and research with corrosion-resistant finishes for steel windows. It saves you the cost of maintenance painting year after year.

Inside and out, Fenestra Intermediate Steel Windows give your schools modern window beauty, more daylighting and better ventilation. Specify them for your new school buildings. Mail the coupon, today, for complete information or call your local Fenestra representative — listed in the Yellow Pages of your telephone directory.





Sam Houston Elementary School, Port Arthur, Texas, features Fenestra Intermediate Steel Windows. This outstanding school demonstrates the functional beauty of their slim, modern design and the pleasant classroom atmosphere created by their better daylighting and ventilation. Associated Architects: Caudill, Rowlett, Scott & Associates, Bryan, Texas; Oklahoma City, and J. Earle Neff, Port Arthur, Texas. Contractor: Schneider Construction Co., Houston, Texas.

Fenestra | INTERMEDIATE STEEL WINDOWS

INCORPORATED

Your Single Source of Supply for DOORS . WINDOWS . BUILDING PANELS

Fenestra Incorporat	ed	
Dept. AR-6, 2252 Ea	ast Grand	Blv
Detroit 11, Michigan	1	

Please send me complete information on Fenestra Intermediate Steel Windows for school design and

construction. NAME. FIRM. ADDRESS. STATE CITY_

WILSON AIR-FLOAT CEILINGS* | another new application of Homasote



MODERNIZED

...WITH CEILINGS THAT



Whatever the type or condition of the existing ceiling, here is a new construction method to modernize it — economically. Wilson Air-float ceilings are hung from the present beams or from strapping under old plaster — without "leveling up". The ceiling is "continuous dry-wall construction", as low as desired, and with no perceptible joints.

The whole ceiling, of Homasote in big sheets up to 8' x 14', literally floats — clear of all walls — free to expand or contract as a unit in either dimension. It easily accommodates and hides pipes, wiring, or air-conditioning equipment.

Wilson Air-float permits ceilings of two or more layers — for indirect lighting and for sound-deadening. Consider it in new designs, for ceilings of any size.

Let us send you complete blueprint information and construction data.

Kindly address Department F-9.

*Patent applied for

HOMASOTE COMPANY, TRENTON 3, NEW JERSEY

IN CANADA: TORONTO, ONT.-P.O. Box 35, Station K . MONTREAL, P. Q.-P.O. Box 20, Station N



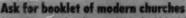
Beauty and Economy for Your Churches

with glulam arches "shop grown" by America's pioneer in **Engineered Timber Construction**

Glulam arches by Timber Structures, Inc., give everything desired in modern church framing-beauty possible only in fine wood ... adaptability for an infinite variety of architectural design...economy of functional construction...permanance for generations of maintenance-free service.

Of equal importance is the dependable service offered by the nation's largest laminators and fabricators of structural timbers. With more than a quarter century of experience, sustained service and responsibility plus the facilities of a 30-acre plant, quality is consistently excellent and performance is fully equal to the requirements of the architect and contractor. Preliminary design information is available upon request.





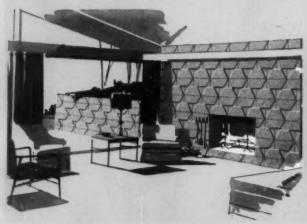
A brochure has just been published which shows outstanding applications of glulam arches and beams in church architecture. Get your copy at your nearest Timber Structures representative; or fill-in and mail the coupon below.

TIMBER STRUCTURES, INC. P.O. Box 3782-A, Portland 8, Oregon Please send your new brochure on churches to

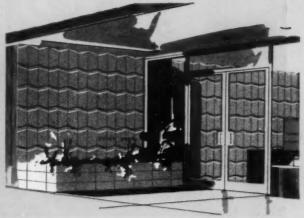
Announcing Shadowa

concrete masonry

the block with 1000 faces



Shadowal block for the home adds new dimension and character to a room. The standard modular 8" x 16" face makes it easy to lay-up in the wall.



Shadowal block for the smart shop can be used with equal distinction for interior and exterior walls-blends perfectly with other building materials.



Shadowal block for the exterior of industrial buildings gives the effect of expensive special shapes at only slightly more than the 8" x 8" x 16" units.



Shadowal block for schools breaks up large wall expanses with attractive patterns. Shadowal masonry is also firesafe, sound absorbing, requires no finishing.

Shadowal block available from NCMA members

National Concrete Masonry Association : 38 South Dearborn · Chicago



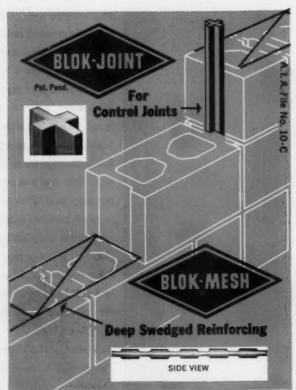


Here it is - the biggest news in the building industry in years! Now from NCMA's extensive research comes a standard modular concrete block with a pattern built into the face. You see on these pages just a few of the beautiful wall patterns possible with Shadowal block. These patterns were made with just one Shadowal masonry unit. The variety of intricate patterns is limited only by the imagination of the user. You can save expensive wall finishing costs and still build new beauty into all types of structures at little extra cost. Call your local NCMA member-Shadowal block is available exclusively from Association members—ask him to show you samples of versatile Shadowal units. See for yourself the big news about the building industry's most versatile material, beautiful Shadowal concrete masonry-the block with 1000 faces.



Shadowal Block Portfolio

Get the complete story about Shadowal block from your nearest NCMA member. Contains many brand new wall patterns, the story of Shadowal block and a host of other new building ideas.



It Takes Both For MORE STRENGTH & PROTECTION IN MASONRY WALLS

Blok-Joint is a cross-shaped rubber extrusion used to make control joints in masonry walls. No special blocks are required — no building paper and mortar fill is necessary. No cutting or sawing to be done. Blok-Joint is used with any standard metal window sash block.

The secure interlock provided by Blok-Joint adds to the lateral stability of the wall. It allows for contraction and expansion while maintaining a firm joint.

Blok-Joint is effective in single block walls, with brick and block backup and at pilasters and columns.

The big advantage you get with Blok-Mesh is the exclusive "Deep-Grip" swedging. It allows the mortar to get a real bite on the reinforcing yet requires no more area in joint than other types of superficial deforming.

Blok-Mesh is designed to eliminate cracks above lintels and below sills. It minimizes ordinary shrinkage cracks. Notice in the illustration how the "Deep-Grip" swedging of Blok-Mesh is large, deep and well-defined to form effective dovetailing.

Write for FREE Blok-Joint sample

and literature on Carter-Waters 2-point better masonry wall design.

For Further Information See



2-c Car Architectural or Industrial Construction File



24 40 Pennway, Dept. AR, Kansas City, Mo

JACKSON & CHURCH FURNACES

HANDLE DIFFICULT HEATING JOBS



Jackson & Church engineering has produced a new Powerated furnace line which matches today's heaviest duty requirements. These new furnaces develop static pressures up to 1½" W. C. with lock-seam, leakproof casings designed to carry the heaviest air load over the unit for air conditioning. Oil, gas or dual-fuel firing with outputs from 152,000 to 3,800,000 Btu. The J-C Powerated Series incorporates the latest advances in modern industrial and commercial heating.



Available for heating plants, stores, churches, schools and other large structures, these new gas-fired models have inputs of 200,000 to 400,000 Btu, with some units approved either as horizontal furnaces or as blower type heaters. These J-C units provide the convenience of gas firing plus all the advantages of suspended type heating such as savings in floor space and almost limitless zone heating possibilities. Drawer type burners for easy accessability, easy installation. J-C gas-fired suspended furnaces are built for minimum maintenance.



Space-saving oil-fired suspended models, available in a wide range of sizes with outputs of 89,000 up to 1,000,000 Btu, these easily installed units are most versatile in application. They can be installed singly or in batteries, and can supplement other heating for plant expansion and they are readily adapted to year round air conditioning. These dependable units solve many commercial and industrial heating problems.



Fired units are ideally adapted for large commercial or industrial heating jobs. They may be installed on the floor, or suspended either inverted or horizontally. They are self contained, automatically controlled units equipped with induced draft fan and air circulating blowers. J-C Direct-Fired Unit design makes savings possible in both installation and maintenance costs.

OB

JACKSON & CHURCH - FURNACE DIVISION

Saginaw, Michigan



As Important as the Right Note in a Symphony — THE RIGHT LIGHT

When you never know just what the light level should be — until you try it — when the light level should change to match an occasion or to meet a mood . . . then you should specify LUXTROL light control equipment.

The dimming, brightening, blending of light is no longer the monopoly of the auditorium. It has made "off-on" lighting not only old fashioned but also uneconomical.

"All-level" lighting is making money for restaurants, cocktail lounges, hotels, stores — wherever people gather and the right mood or the right appearance can increase the money they will spend.

Light control has become the fourth dimension not only of the interior decor but also of the merchandise.

LUXTROL light control equipment can be used on incandescent, fluorescent and cold cathode lamps. In the complete line are units to meet all requirements from 360 to 30,000 watt loads. Send coupon below for more information on sales possibilities for LUXTROL light control equipment.

JUST DIAL THE RIGHT





THE TYPE OF MEETING



COXTROL

Light Control Equipment



Hen-Interlacking Types When only a few circuits require control. Capacities from 1000 to 30,000 wets.



6000 to 15,000 watt ratings. Circuits can be in teriocited. Professiona light control at budge prices.



Single units in 2500 and 6000 watt ratings for mounting in switch-board assemblies.



A compact unit designed to replace the ordinary "on-off" switch in a wall. 360



Amplifier System
No moving parts or else
trenic tubes. Available is
3000, 6000 and 15,000

a precision product of

SUPERIOR ELECTRIC

106 ROGER ROAD, BRISTOL, CONNECTICUT

106 ROGER ROAD, BRISTOL, CORNECTICU

Name______

Street______Zone___State____

RESEARCH DATA RELEASED BY DUR-D-WAL

Independent Study Now Available to Industry

In an effort to obtain pertinent information as to how joint re-inforcing actually affects the strength of masonry construc-tion, Dur-O-waL sponsored a program of research carried on by the Research Foundation of the University of Toledo in 1956. The study was designed to provide data on the following

- 1. The relative lateral strength of walls constructed with various types and amounts of reinforcing.
- 2. The relative effectiveness of various types and amounts of reinforcing used in walls laid up with mortars of widely varying strengths.
- 3. The effect of deformation in the side rods on the bond in both weak and strong mortars.
- 4. The effect on bond of the joints formed by the side rods and cross rods.
- 5. The effect of deforming on the strength of the side rods.

A total of 39 walls, 9'-4" x 4' were built and tested. More than two dozen tension tests were made on plain and de-formed wires; 80 pull-out tests were made to determine bond characteristics.

Guide for Comparison

Three points of importance in comparing quality -

- 1. Weight of material Comparison of actual weight per 1000 lineal
 - feet. b. Flexural strength in relation to weight of
- steel in wall. 2. Deformation
- a. Report of tests 3. Mortar Locks
 - a. Report of comparative



Widening Design Horizons

By scientifically combining steel with concrete, architects are provided with new freedom of design and new economy of construction. Dur-O-waL is designed to fill a basic need for an economical, fabricated rein-forcing member for masonry walls. You are invited to send for your copy of the research findings to learn how this truss design member provides su-perior lateral and horizontal reinforcing.



Adequate Manufacturing

Dur-O-waL is manufactured by the Dur-O-wal Division, Cedar Rapids Block Company, Cedar Rapids, Iowa; Dur-O-wal Products, Inc., Box 628, Syracuse, N.Y.; Dur-O-waL of Illinois, 119 N. River Street, Aurora, Dur-O-wal Distribution

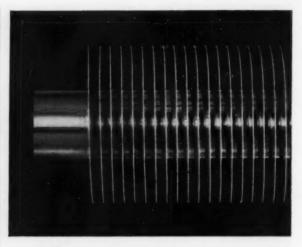
More than 8,000 dealers stock Dur-O-wal, which is distributed in key markets throughout the United States. It is readily available in your area now.

Illinois; Dur-O-wal Products of Alabama, Inc., Box 5446, Birmingham, Alabama; Dur-O-wal Products of Alabama, Inc., Box 5446, Birmingham, Alabama; Dur-O-wal Products of Alabama, Inc., Box 5446, Birmingham, Alabama; Dur-O-wal Products of Alabama, Inc., Box 5446, Birmingham, Alabama; Dur-O-wal Products of Alabama, Inc., Box 5446, Birmingham, Alabama; Dur-O-wal Products of Alabama, Inc., Box 5446, Birmingham, Alabama; Dur-O-wal Products of Alabama, Inc., Box 5446, Birmingham, Alabama; Dur-O-wal Products of Alabama, Inc., Box 5446, Birmingham, Alabama; Dur-O-wal Products of Alabama, Inc., Box 5446, Birmingham, Alabama; Dur-O-wal Products of Alabama, Inc., Box 5446, Birmingham, Alabama; Dur-O-wal Products of Alabama, Inc., Box 5446, Birmingham, Alabama; Dur-O-wal Products, Inc., 4500 E.

Combard St., Baltimore, Md.; Dur-O-wal Div., Frontier Mfg.

Co., Box 49, Phoenix, Ariz.; and Dur-O-wal, Inc., 165 Utah St., Toledo, Ohio. Illinois; Dur-O-waL Products of

Advertisement



AEROFIN Smooth-Fin Coils offer you

Greater Heat Transfer per sq. ft. of face area

Lower Airway Resistance

-less power per c.f.m.

Aerofin smooth fins can be spaced as closely as 14 per inch with low air friction. Consequently, the heat-exchange capacity per square foot of face area is extremely high, and the use of high air velocities entirely practical. Tapered fin construction provides ample tube-contact surface so that the entire fin becomes effective transfer surface. Standardized encased units arranged for simple, quick, economical installation.



Write for Bulletin S-55

EROFIN RPORATION

101 Greenway Ave., Syracuse 3, N.Y.

Aerofin is sold only by manufacturers of fan system apparatus. List on request.

lower the maintenance and add strength, durability and clean fenestration TO YOUR COMMERCIAL BUILDINGS with Gladorama HORIZONTAL GLIDING ALUMINUM WINDOWS

Aren't these the features you and your clients want from the windows you specify?—

- 1. Lowest Possible Maintenance . . . the kind that requires the absolute minimum of upkeep . . . the kind you can practically "install and forget"
- 2. Cleanable From Inside . . . no hazardous or expensive washing . . . just simple, safe, economical inside cleaning
- 3. Inside Removal of Screens . . . for obvious simplicity and economy
- 4. Clean Fenestration . . . to allow full opening of vents and provide uninterrupted lines
- Narrow-Faced Deep Sections . . . for modern geometric lines and maximum visibility!
- **6. Inside Glazing . . .** original glazing and replacement glass installed from inside
- *Each of these five is an exclusive Glidorama feature!

But only by seeing them and operating them right in your office, can you realize the beauty and practical benefits of GLIDORAMA WINDOWS!



FILE No. 17a GLI

Light Construction File

COUPON BELOW WILL BRING DETAILS AND DEMONSTRATION!

- 7. Complete High-Pile-Mohair Perimeter-Seal*... for assurance that wind, dust or rain will never get in ... and to further insulate against temperature loss
- 8. Flexible "Invisible" Locking-Mechanism*... for effortless open-shut action by occupants or easy manipulation exclusively by maintenance men... and designed flush with meeting rail molding
- 9. Twin V-Shape Metal Interlock at Both Meeting Rail and Jamb*... for compression-seal and rigid vibrationfree support of all vertical members
- 10. Stainless-Steel Needle-Bearing Rollers on Stainless-Steel Axles* . . . for instant finger-tip gliding action that's made to last a lifetime
- 11. 20%-Heavier-Gauge Sections, and Double I-Beam Sill Construction*... for the extra strength needed to support broad areas of glass, plus the rigidity for flawless long-lasting operation!







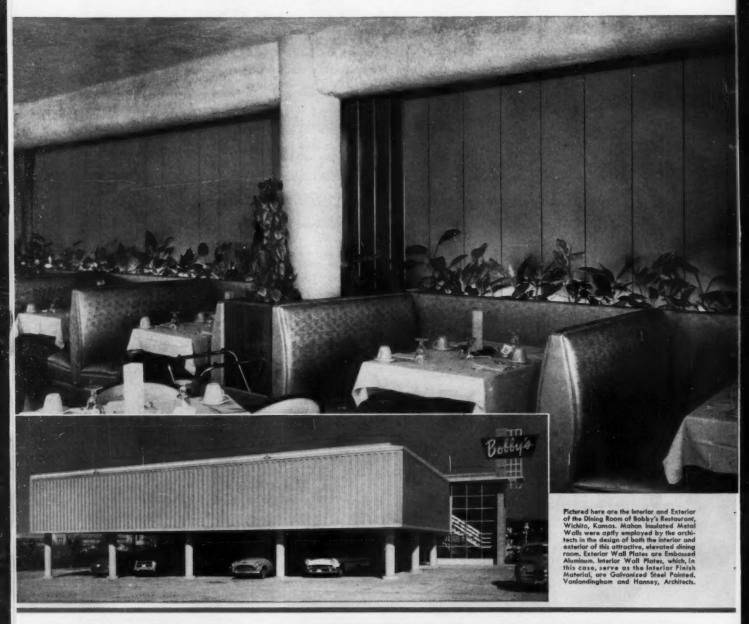
First Baptist Church, Rock Island, III. Architects: Thorson, Thorson & Madson, Waterloo, Ia.

19.5	GLIDORAMA DIVISION, Whizzer Industries, Inc., 342 S. Sanford St., Pontiac, Mich. Phone Federal 2-8371.	
965	Gentlemen—	
	Send me your Glidorama Architects' Catalog.	
	Arrange for a Glidorama demonstration in my office.	
	Name	
	Firm	
	Number-Street	
	City Zone State	

Glidorama

aluminum GLIDing windows with panORAMA views

THE THE WALLS Serve as



ELECTRIFIED M-FLOORS Mahan M-Floors provide electrical availability in every square foot of floor surface—safeguard buildings against electrical obsolescence in years to come. ACOUSTICAL and TROFFER FORMS Provide an Effective Acoustical Ceiling with Recessed Troffer Lighting—Serve as permanent Forms in Concrete Joist and sole concrete Joist and Slab Construction of Floors and Roofs. CONCRETE FLOOR FORMS Mahan M-Floors provide electrical available in concrete floor forms in various types meet virtually any requirement in concrete floor sole construction of Floors and Roofs.

a Conventional Metal Curtain Wall and the Interior Finish Material as Well!



MAHON FLUTED WALL



MAHON RIBBED WALL



For many years architects have employed Insulated Metal Curtain Walls skillfully and to good advantage, costwise, in producing some outstanding exterior design effects in office buildings, schools, armories, sports arenas, parking garages, all kinds of industrial buildings—including powerhouses, and in some important monumental buildings.

Now you see the functional Metal Curtain Wall serve also as the interior finish material in a unique and attractive dining room which is elevated on columns to provide parking space below.

In this installation, the flush inside metal plates of the Mahon Insulated Metal Wall are employed as the interior finished wall material—the flush metal surface is painted to harmonize with and become a part of the interior decorative scheme. The over-all effect obtained by the architects speaks for itself.

Metal Curtain Walls with exterior plates of embossed aluminum, stainless steel, or cold rolled steel painted, employed in combination with brick, ornamental stone, glass block or other materials offer unlimited possibilities in architectural treatment of exterior design. The building illustrated here is a typical example.

In Mahon Insulated Metal Walls, vertical joints are invisible—symmetry of pattern is uninterrupted across the wall surface . . . and, the field constructed walls can be erected up to sixty feet in height without a horizontal joint. These two design features, which are extremely important from an appearance standpoint, were engineered into Mahon Insulated Metal Curtain Walls to give you a finer appearing wall surface with a continuous pattern free from unsightly joints.

You'll want to investigate these Mahon "better look" features before you select a metal curtain wall for any building.

See Sweet's Files for information, or write for Catalogue W-57.

THE R. C. MAHON COMPANY • Detroit 34, Michigan Sales-Engineering Offices in Detroit, New York and Chicago Representatives in all Principal Cities

MAHON









465 Thinlines air condition Frontenac Apartments in St. Louis.



Case mounts in wall during construction.



Aluminum grille protects unit on outside.

General Electric <u>Thinlines</u> completely air condition New 16-story apartment building

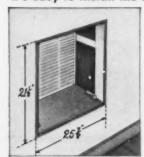


"We considered all kinds of air conditioning for our new Frontenac Apartments before we decided on *Thinlines*," says Joseph A. Campagna of The Campagna Corporation, wellknown investor-builders.

"By installing Built-In *Thinlines* right through the wall, we can give all 200 apartments permanent air conditioning without needing plumbing or expensive ductwork. The individual units allow each tenant to control the temperature in his own apartment himself."

Built-In *Thinlines* are so thin that there's no unsightly overhang inside or out to mar the appearance of the building. And they come in ½, ¾, and 1 hp. models that all fit the same thin case. Backed by expert service and a written guarantee. See your General Electric distributor soon for full details. General Electric Company, Room Air Conditioner Department, Louisville 1, Kentucky.

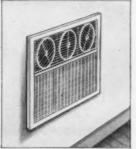
It's easy to install the new General Electric Thinline Built-In model:



Case is installed during construction—mounts in any kind of wall. Panel protects opening until building is completed.



Thinline mechanism slides into case later. Six screws hold it in place—give you a quick and weather-tight installation.



Add appearance front, air filter, grilles. Plug in and *Thinline* is ready to operate. Grille can be painted.



On the outside the *Thinline's* aluminum grille will keep its good looks for years. You can paint it to match the exterior.

Progress Is Our Most Important Product

GENERAL (ELECTRIC











5



6

9

13











Eliminates hazard of clagged waste lines by intercepting, separating, and holding grease, all, fats before they reach waste lines. Suitable for domestic and commercial use. For swimming pools or narrow gutters in terrace or balcony floors or any location requiring narrow drain with large waterway.

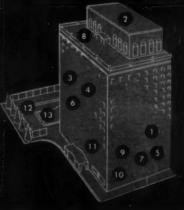
FLOOR DRAIN
For swimming and wading pools or areas where quick drainage is necessary.

850 POOL OR INDUSTRIAL

Specify BLAKE

CARRIERS AND DRAINAGE EQUIPMENT FOR DEPENDABLE PERFORMANCE THROUGHOUT

From the roof to the basement—simple one-storied or complex multi-storied buildings—whatever your drainage problem, there are Blake products to help you. The products shown here can only suggest the range and scope of the Blake line—a complete line of scientifically designed and quality engineered products—the result of 50 years of experience and know-how. You can specify Blake with complete confidence. Write for complete catalog.





10

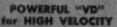
BLAKE DIVISION HOFFMAN SPECIALTY MFG. CORP. INDIANAPOLIS 7, INDIANA

ACCEPTED ACCEPTED Allen ROOF VENTILATION

Whatever your ventilating needs, be sure to see how Allen equipment can meet your requirements efficiently and economically.

NEW "I-LINE" for EYE APPEAL

The new "I-Line" provides an attractive low contour, assuring maximum capacity or efficiency with the minimum over-all height.



By moving a large volume of air at high velocity, this Vertical Discharge fan keeps fumes from sifting back into building.





Allen

... is prepared to investigate ventilating problems and plan systems for the efficient removal of heat, fumes, vapor or dust.

WIND-DRIVEN TURBINES

Three types of Allen turbines take full advantage of the economy of natural air movement.



EXHAUST FANS

Remote drive Staxauster is designed to handle corrosive fumes, and/or high temperature air.

THE ALLEN LINE

Write today for catalog that gives specifications and performance data on these and other units in the Allen ventilator line.





ALLEN COOLER & VENTILATOR, INC. ROCHESTER, MIGH.

Roof Ventilators for Every Commercial and Industrial Need REPRESENTATIVES IN PRINCIPAL CITIES

The Door that Gives You More - of Everything!



Overhead shown above, with its smart modern lines, is the finest in garage door design. It's the door that is made for ranch-style homes—the last word in stream-lined beauty!

Compare the 14 construction features, many of them exclusively Frantz and available nowhere else...the patented brakes, the 2-way Spring Adjustment, Automatic Latch-Lock, Cross Angles, and other advancements. Doors are 13%" thick, of kiln dried lumber, with ¼" fir plywood panels. All hardware, except springs and angles, is zinc plated to prevent rust—the outside handle is chrome-plated.

Easy Operation, Installation

Just turn the latch...it opens itself!

painted in contrasting colors. Demountable,

easy to apply, low in

The exclusive Glide-O-Matic action opens the door with a turn of the handle. There is no rebound, thanks to the patented *adjustable brakes! Parts are prefitted for easy assembly and fast installation. Standard headroom 13½"—or with low headroom device—6" for single opening sizes and 8" for double width doors.

of the Frantz No. 500 series, modern production techniques have brought the cost to within easy reach of the modest homeowner. Other models cost even less.

niques have brought the cost to within easy reach of the modest homeowner. Other models cost even less.

Variety —the Frantz 500 series is available in var-

ious sizes for single and double width openings. Other Frantz models in sectional, rigid (one-piece) types, and Frantz hardware sets, provide one of the widest and most complete lines available anywhere! Write for Catalogues No. 302 and 107 today.

*U. S. Patent No. 2702082



GARAGE DOORS AND HARDWARE

FRANTZ MANUFACTURING CO., STERLING, ILLINOIS



LINE



GROUNDING



DUPLEX



ROTO-GLO STRAP TYPE

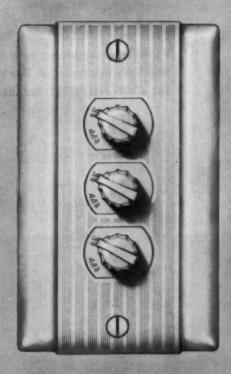


POLARIZED



AC SWITCHES

a complete line of wiring devices of the Highest Character



ROTO - GLO ° QUIET SWITCHES



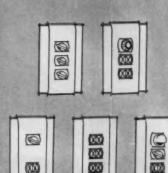
mark of Quality

today's smartest switch... in the modern Despard style

Everyone likes a light switch that can be seen in the dark. And Roto-Glo—with its soft, luminous glow—is always visible. Quiet, too—a quarter-turn and lights go on or off without a sound. Roto-Glo is truly in tune with modern interiors.

Compact design allows the use of up to three switches in one ordinary sized ivory, brown, chrome or other attractive wall plate. Long life is assured by large silver alloy contacts. Can be used to full current rating on tungsten filament and fluorescent (inductive) loads, and on motors when full load current is not more than 80% of switch rating.

For information on Roto-Glo and other high standard P&S wiring devices, write Dept. AR-20.





PASS & SEYMOUR, INC.

SYRACUSE 9, NEW YORK

60 E. 42nd St., New York 17, H. Y. 1440 N. Putaski Rd., Chicago St., III.

MAKE THE COMPLETE JOB COMPLETELY P&S

POMEROY ENCLOSURE to be installed in one of Manhattan's newest most

Plan your ENCLOSURES in cooperation with **POMEROY** engineers who are experienced and fully informed on the latest requirements for CURTAIN-WALL buildings

outstanding curtain-wall structures. 375 PARK AVENUE, N. Y. C. View of the pier-to-pier type POMEROY ENCLOSURE as installed

Sketch of the free-standing type

in the world's largest completely air-conditioned building. SOCONY-MOBIL BUILDING, N. Y. C.



POMEROY DESIGN VARIATIONS, CONSTRUCTION METHODS AND INSTALLATION FEATURES WILL SAVE TIME AND MATERIALS!

Pomeroy custom-built Enclosures incorporate basic engineering advances that make them ideally suitable for high-rise curtain-wall buildings. Pomeroy's greater flexibility offers structural advantages and economy in many ways. Our Engineering Staff will be pleased to review with your Design Department the Pomeroy Enclosure best suited to your projects, regardless of size or type of building.

CALL or WRITE TO SEE A REPRESENTATIVE NOW! Phone - CYpress 2-6600



S. H. POMEROY CO., INC., 25 BRUCKNER BOULEVARD, NEW YORK 54, N. Y.

manufacturers of

SINCE

DOUBLE-HUNG WINDOWS VERTICALLY **PIVOTED** WINDOWS

FIXED and HINGED COMBINATION WINDOWS

CUSTOM-BUILT **ENCLOSURES**

SPANDREL SYSTEMS

ACOUSTICAL CEILING SUSPENSION SYSTEMS

FABRICATION IN ALUMINUM - STAINLESS STEEL and COATED STEEL

STAINLESS
STEEL
MAKES THE
DIFFERENCE

...its effect on modern construction

Resistance to all the major causes of deterioration, faster and more economical construction because of prefabricated parts, and appearance that "looks like new" for the life of the building make stainless steel popular with architects, contractors and owners alike.

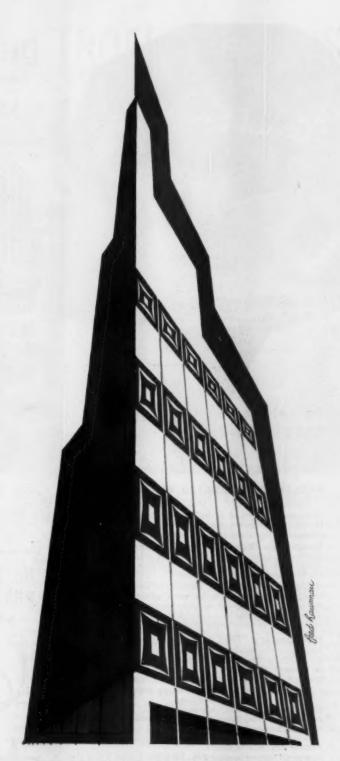
Stainless steel keeps changing to meet specific needs, too. For example, there are more than 30 different types, plus a variety of finishes—decorative textures, surface tones and colors. Stainless needs little care—simple cleaning keeps it bright—thus minimizing maintenance costs for the normal life span of the building.

For more facts, write ELECTROMET—leading producer of more than 100 alloys for the metal industries, including chromium and manganese used for making stainless steel. Ask for the booklet: "Architectural Uses of the Stainless Steels." Address: ELECTRO METALLURGICAL COMPANY, Division of Union Carbide Corporation, 30 East 42nd Street, New York 17, N. Y. In Canada: Electro Metallurgical Company, Division of Union Carbide Canada Limited, Toronto.

METALS DO MORE ALL THE TIME ...THANKS TO ALLOYS



UNION CARBIDE



Freedom from the damaging effects of heat, water, wind, ice and corrosive atmospheres plus low maintenance make stainless steel buildings look better, last longer and cost less!

The terms "Electromet" and "Union Carbide" are trade-marks of Union Carbide Corporation.



PASSENGER-OPERATED ELEVATORS

Montgomery is proud to have been selected to supply

the finest in elevator equipment to this newest nationally famous greeting card plant at Kansas City. Montgomery's "Measured-Demand" Passenger-Operated

Montgomery's "Measured-Demand" Passenger-Operated Elevator systems assure highly efficient around-the-clock service with operation economies that soon repay original or modernization elevator costs.

Regardless of the type of building or service needed, Montgomery, through over 50 years' experience in the design and manufacture of elevator equipment exclusively, makes available a complete selection of systems to best suit the installation efficiently and economically.

montgomery "PM" (preventive maintenance) Service Investigate this efficient and money-saving plan that has so effectively removed the expense and inconvenience of elevator shut-down. "PM" Service from coast-to-coast. Consult yellow pages of your phone directory.

other POPULAR montgomery elevator installations

Fidelity National Bank Bldg., Oklahoma City, Okla.
Bowser System Parking Garages — In All Major Metropolitan Cities
Commerce Building, Portland, Ore.
Ihruway Plaza, Buffalo, N. Y.
KARD-TV Bldg., Wichita, Kans.
Commercial Travelers Insurance Bldg., Salt Lake City, Utah



montgomery elevator company

Exclusive Manufacturers of Passenger and Freight Elevators Since 1892

there are reasons architects specify these M⊆Donald products



D-5050 Roof Drain double coated to last longer

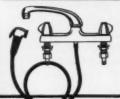
Two coats of heavy enamel put on over a rust-resistant prime coat gives this quality drain maximum protection from constant exposure to rain, snow, ice, sleet and the hot summer sun.

No. 7720 Centrifugal Booster and Air Conditioning Pump <u>fully bronze</u> <u>fitted for longer wear</u>



Impeller and case ring are durable bronze for additional years of efficient service. Capacitor motors. Close-Coupled design. Capacities to 70 GPM. Total heads, 20 to 85 feet. Five sizes — 1/4 through 1 horsepower.

No. 3455 Exposed Deck Type Faucet with renewable barrel unit



Start with highest quality metals, modern foundry practice and close tolerance machining by experienced experts and you have a Mixing Faucet that provides years of carefree service.

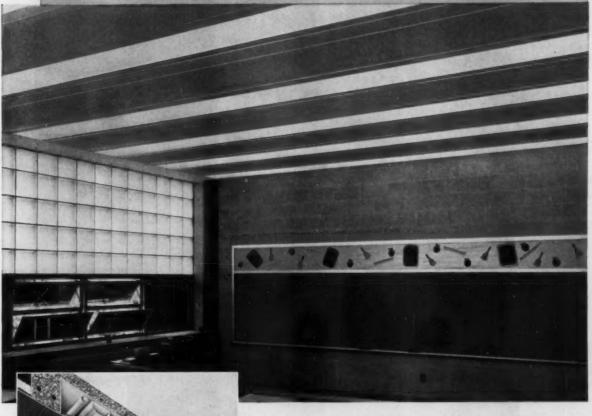
These three popular items are typical of all Mc-DONALD products. Complete specs and price sheets are available for your files. Write to:



A.Y. MºDONALD

MFG. CO., DUBUQUE, IOWA DRAINS PUMPS BRASS GOODS OIL EQUIPMENT

ACOUSTICAL and TROFFER FORMS

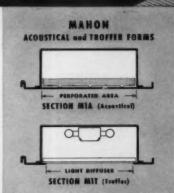


... for Acoustical Ceilings with Recessed Lighting!

Mahon Acoustical and Troffer Forms provide an effective acoustical ceiling with recessed lighting as well as serving as the permanent forms for concrete joist and slab construction of floors and roofs. These are long span units which are integrated with and supported by conventional concrete beams at each end. Only a minimum of temporary shoring is required at mid-span during pouring and curing of concrete. This is permanent, fireproof construction which has a broad application in modern buildings . . . it is used extensively for auditoriums, school classrooms, and in other rooms where an acoustical ceiling with recessed lighting is desirable. Mahon Troffer Sections are also available for use with Mahon M-Deck Sections to provide a combined roof and acoustical ceiling with recessed lighting. In this arrangement the long span M-Deck serves as the structural unit, the interior finish material and the acoustical treatment—all in one package. Purlins are eliminated . . . structural M-Deck Sections span from wall-to-wall or from truss-to-truss. Some of these newer Mahon Sections do not appear in the current Sweet's Files. Why not have a Mahon sales engineer call and bring you up to date on Mahon products now available for Floor, Roof and Combined Roof-Ceiling Construction?

THE R. C. MAHON COMPANY • Detreit 34, Michigan Sales-Engineering Offices in Detroit, New York and Chicago • Representatives in Principal Cities

Manufacturers of Acoustical and Troffer Ceiling Forms; Steel Roof Deck and Long Span Acoustical M-Decks; Electrified M-Floors; Insulated Metal Curtain Walls; Underwriters' Rated Metaldad Fire Walls; Ralling Steel Doars, Grilles and Underwriters' Labeled Automatic Rolling Steel Fire Doars and Fire Shutters.



Above is a typical Clearoom in the Eagenia Methotal School, betroit, it is One of 50 Roome including the Auditoriem—with Mahon Acoustical-Troffer Cellings, Shreve, Walter & Associates, Inc., Architects, Alfred A. Smith, Inc., Gen. Contractors. MAHON

PERFECTLY FITTING

for churches of either

TRADITIONAL

or

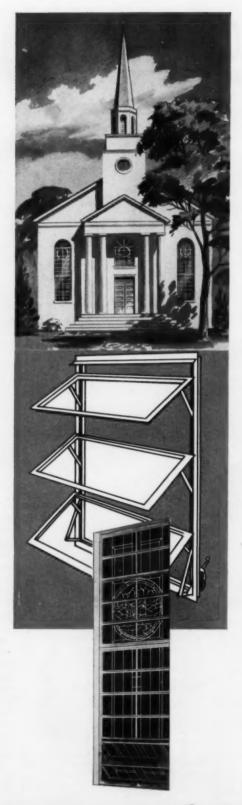
M O D E R N DESIGN

The inspired designs of today's modern churches, reflect advanced architectural concepts, in the use of new materials and construction techniques. Modern fenestration, typified by Miami Window installations, in many of these imposing structures, have given their architects extended freedom of expression from the limitations imposed by less versatile windows.

Miami, the original, all aluminum awning window, has proven, in over one million installations, its superiority in; design . . . engineering advancements . . . in manufacturing excellence, and constantly maintained quality. It is the finest window of its type ever manufactured. Constant improvement, through intensive engineering and research effort, will continue to keep it so.

Miami Window Corporation engineering department welcomes the opportunity to translate your sketches into working drawings, there is no obligation.





miami window corporation

P. O. BOX 877 INTERNATIONAL AIRPORT, MIAMI 47, FLORIDA

JUNE 1957 ARCHITECTURAL RECORD



7

GERMAN CHURCHES





IN THE REBIRTH OF A

by G. E. KIDDER SMITH, A.I.A.

Architect, church consultant, author, lecturer, and member of the Commission on Architecture of the National Council of Churches. The research, most of the pholographs, and layout of this article are also the work of the author THE POSTWAR church-building activity in West Germany is without question the most audacious and stimulating in Europe. Rising from the ashes of war's incredible destruction, seeking, probing, striving towards the answers of today's church in today's ethos, these new churches have a conviction that bursts with imagination and lessons. For here will be found no warmed-over pastiche or faint-hearted aping of ancient forms, but the very firm conviction that church building today can contribute just as much to the religion and culture of our time as it has throughout the greatest periods of architecture. For the history of architecture is largely the history of religious buildings, and a review of the world's great architectural achievements will show that virtually all were as advanced, as "modern," for their time as possible. Indeed the buildings of the 12th to 14th centuries that we call Gothic — those now considered the finest churches of Christendom - were initially held to be so outlandish that they were named for rude barbarians. There is thus an historic, traditional concept of continual progress in religious building. The West Germans today accept this as a challenge: they feel that it is unthinkable for the church to retreat into the worn-out mold of the past. The church to survive must go forward, not backward.

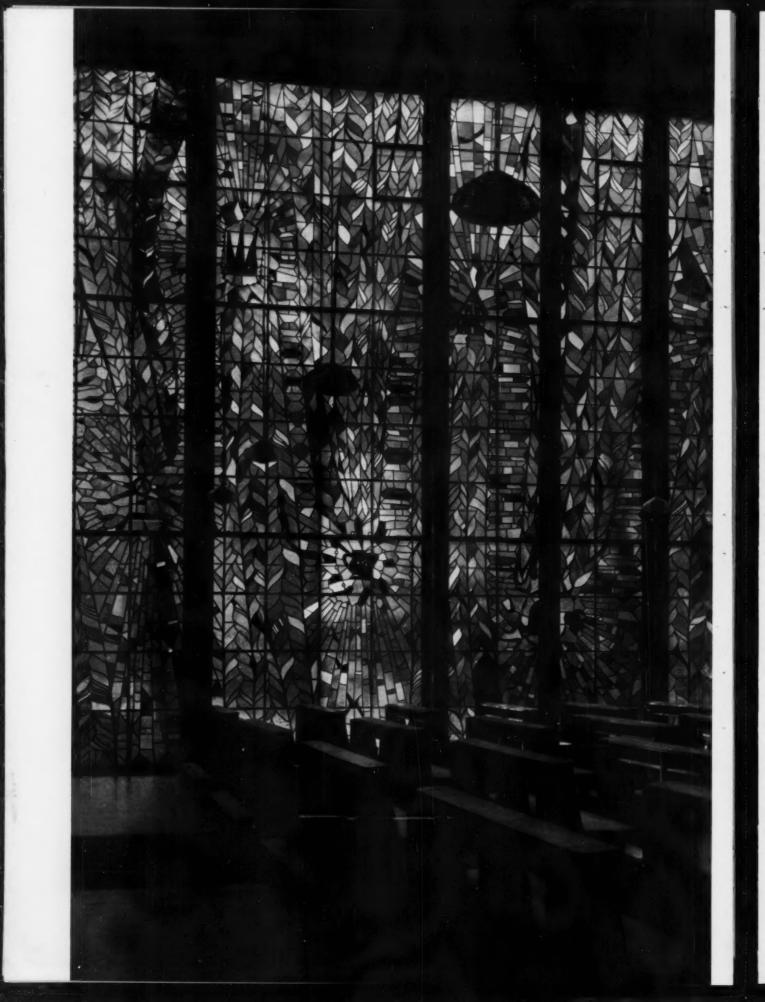
The prime center of this resurgence is the Rhine Valley, stretching from the Dusseldorf area in the north almost to the Swiss border (where another great church movement is active). Cologne might well be termed its capital, with strong local movements in Frankfurt and Saarbrucken. And although West Germany as a whole is somewhat more Protestant than Roman Catholic (roughly 55 percent to 45 percent), the greatest church-building activity both in quantity and quality has been Catholic. However, this has taken place not in the traditionally Catholic länder of Germany, which strangely enough have produced little new work of merit, but has been sparked in the predominantly Protestant Cologne area. The reasons for

GREAT TRADITION

this are illuminating. One, the destruction in the Rhine-Ruhr basis was extremely heavy, necessitating largescale rebuilding. In the Cologne diocese alone, for example, some two hundred new Catholic churches have been built in the last few years. Two, the Roman Catholic Archbishop of Cologne, Joseph Cardinal Fings, was convinced when the war ended that his church must make every effort possible to bring into the fold the shattered, troubled youth of Germany. The older people already belonged to the church; the young were largely drifting and psychologically uncertain about the future in general, let alone the church in particular. To bring the younger generation into the church the church must speak to youth in the terms of youth; it must let them know that religion is just as vital in our time and just as in tune with our time as it was in the past. To do less would be an admission of virtual religious bankruptcy. The physical expression of the house of God would of course be a vital - perhaps the most vital - factor in this challenge. An uncompromisingly bold and stimulating architecture would let young and old alike know visually, tangibly, and immediately that the church was indeed an alive dynamic organism. It could scarce speak of its concern for the future in the clothes of the past. And it need hardly be pointed out that all churches in all countries must so speak to survive. Thirdly, and finally, Archbishop Frings was particularly fortunate in the success of his churchbuilding program in that Dominikus Böhm and Rudolf Schwarz were both Catholic and both residents of Cologne. These two, together with Otto Bartning, the famous Protestant church architect, were responsible for the magnificent series of modern churches built in Germany in the 1920's and early 30's - another postwar church movement and one whose rationale and development largely parallels the present one. Germany then as now was the leader in Europe in new church work. After this last war, when Böhm, Schwarz, and Bartning began to have extensive opportunities to express themselves again after a generation of vipers, they brought to their tasks their early experience of new church building matured by a long gestation of soul searching and provocative reflection. Their work which we shall now see has, as a result, few equals anywhere.

Before beginning with the individual churches it is well to keep in mind several general points concerning them. One of the most apparent features is that all of them, Protestant and Catholic alike, appear somewhat severe and spartan. There is none of the coddled luxury found in the U.S.A., but an almost businesslike, yet spiritual, directness. There are several reasons for this: One, so many churches are being built following war's destruction that there is not enough money at present for much embellishment. In numerous cases this will come later, although all agree that ideally architect and artist should cooperate from the inception. Two, because of the Nazi-enforced "hibernation" there are not as yet enough front-rank large-scale artists in Germany painters, muralists, mosaicists, sculptors, glass designers who are architecturally minded or trained. Brilliant exceptions will be found (beginning with the glass shown overleaf), but in general the art is not up to the architecture. Thirdly, the Rhinelanders themselves as opposed to the Bavarians — are somewhat restrained in their use of exuberance and richness.

Another general point to remember in the churches shown here is the very strong and direct use of materials. There is no shilly-shallying about concrete, for instance, but a frank and revealing honesty. A third overall point concerns the lighting, especially the artificial. This difficult art is often accomplished with regular stock fixtures, but in each church the result seems tailored to the conditions, sympathetic to the architecture, and effective to the parishioner. Finally these churches are not shaved-down boxes with volume only: they are living, spiritual, three-dimensional spaces, spaces for worship, spaces for reverence to God.



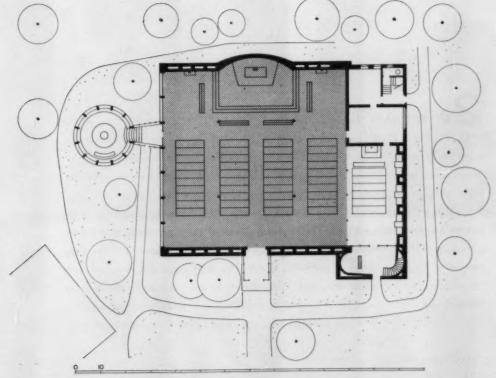


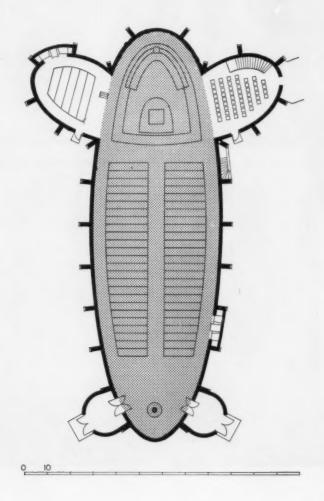




MARIA KÖNIGIN, Goethestrasse, Cologne-Marienburg (Dominikus Böhm, architect). The glory of this wonderful church lies not in its solid square form but in its weightless elegant wall of glass and its adjacent baptistery, all designed by the late father of the modern church movement in Germany who died in 1955. The great sparkling silver-gray window, set in a black painted steel frame, has a pattern of abstracted leaves and branches into which fourteen symbols of the Litanies of Mary in yellow, green, and red antique fragments are woven. Through this are felt the actual trees of the park outside. Beyond, as a detached jewel separated by clear glass lies the circular baptistery ablaze with its own colored panes. The nave itself is supported within by four simple lally columns, like tent poles, painted bright red as a foil to the gray of the windows and waxed oak of the floors. The exterior was suppressed to keep it in character with the quiet residential neighborhood.

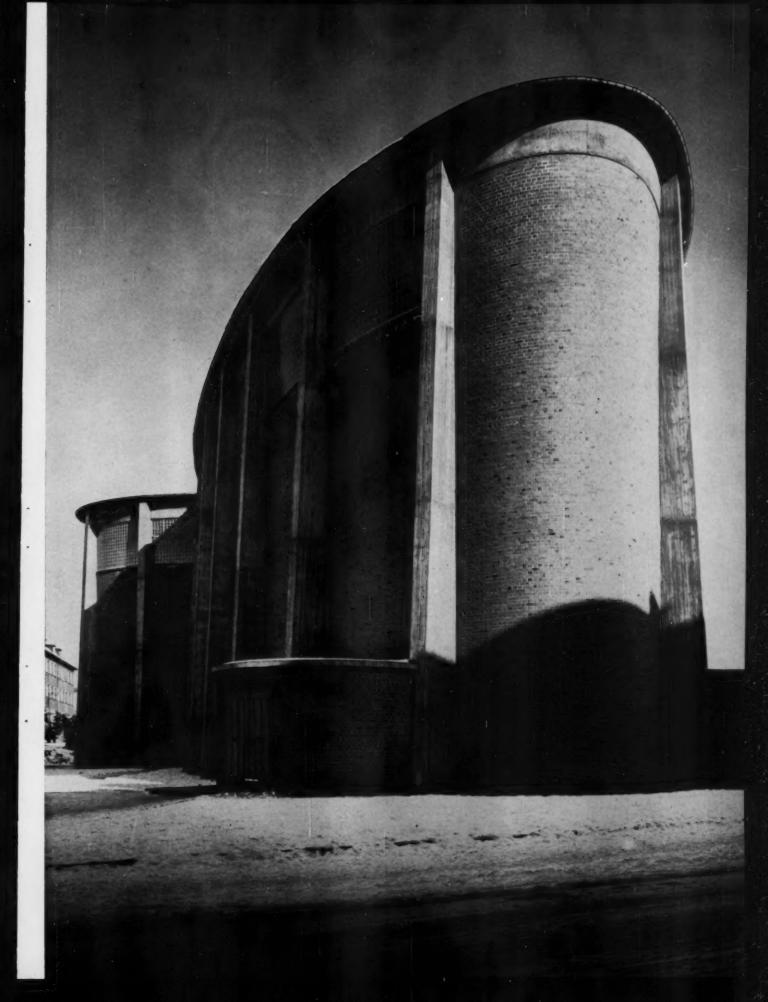


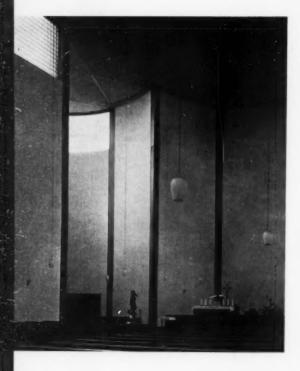


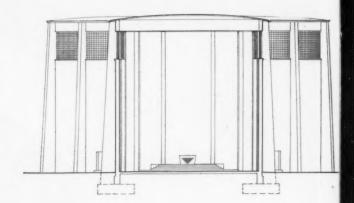


2 ST. MICHAEL, Rotlintstrasse, Frankfurt-on-Main (Rudolf Schwarz, architect). Ein Feste Burg Ist Unser Gott: A Mighty Fortress is Our God, and in the smashing strength of this church — like some great ship plowing through eternity — Schwarz has achieved one of the strongest churches yet designed. Disdaining comeliness without or pleasant glass within — the church is lit by commercial glass brick — a detached retreat from the outer world with a strangely moving inner beauty has here been realized. The modified ellipse of the plan, pointing the four directions of the worldly compass, has been used since the Renaissance in Germany, but never with such simple dignity and power. The single altar was designed as a freestanding square so that the priest could officiate on any side, facing the nave on Sunday and either chapel on less crowded weekdays. The daily worshipper would thus feel comfortably in touch with the high altar at all times. The baptismal font is

Photo on opposite page, Arthur Plau

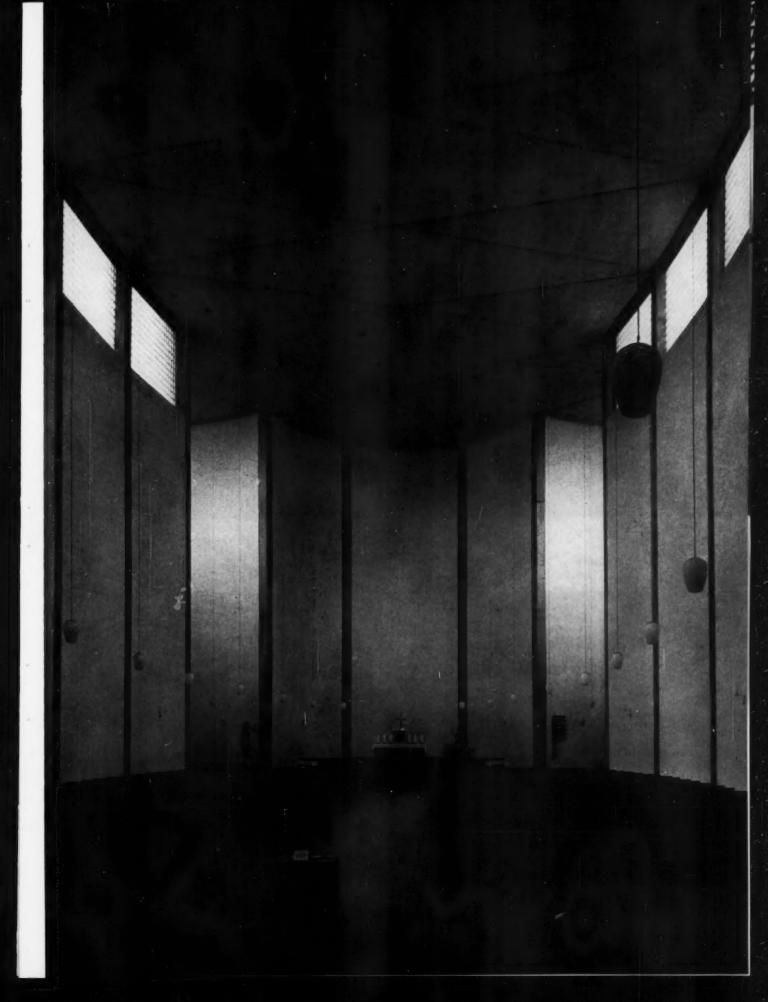






2 ST. MICHAEL

at the opposite pole of the ellipse from the altar. Schwarz wanted to wall off the distractions and worries of the outside world through his interiors, and by bringing the parishioners to a holy room of inner beauty to send them home refreshed and spiritually strengthened. Note how the lofty cross section with its high clerestory band of light contributes to this effect. The left chapel (above) contains the confessionals and Stations of the Cross; the right chapel accommodates the choir and a stairway leading down to the crypt. St. Michael's is constructed with a reinforced concrete frame whose ribs are set every five meters apart. The cavity walls are of brick, red without, set in the exposed concrete frame; lightly stuccoed and painted white within. The floor is black quarry stone which is also used to face the inner concrete frame. The ceiling is light blue with gold ribs. Note the careful accents of the simply suspended simple lighting fixtures. A detached belfry will be added.

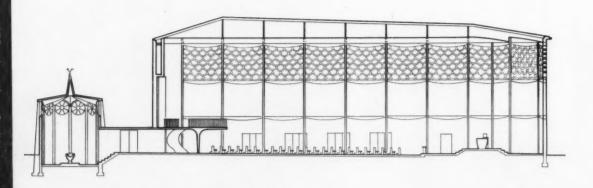




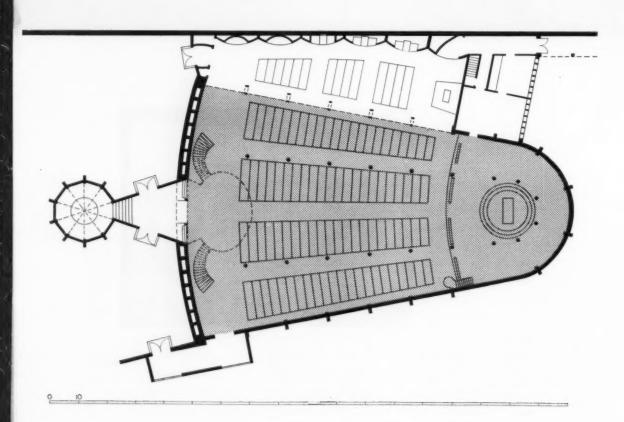
3st. ELIZABETH, Moselweisserstrasse, Coblenz (Dominikus and Gottfried Böhm, architects). In a heavily bombed depressed section of Coblenz the Böhms, father and son, have created a church which handles well the difficulties of its site. As seen above, and in the plan overleaf, the church is set back from the sidewalk so that a small entry plaza — eventually to be landscaped with trees — is created. Thus the distractions on either side are walled off and minimized upon entering and leaving the church. In addition this space permitted the Böhms to play off the intriguing geometry of the projecting baptistery against the calculated plainness of the slightly bowed facade. Within, a room of quiet dignity has been achieved, although somewhat overly forested with eighteen columns. The natural illumination is a continuous clerestory placed high to shut out the surroundings. Sight baffles of open tile set in a fish-scale pattern minimize glare on the sides.

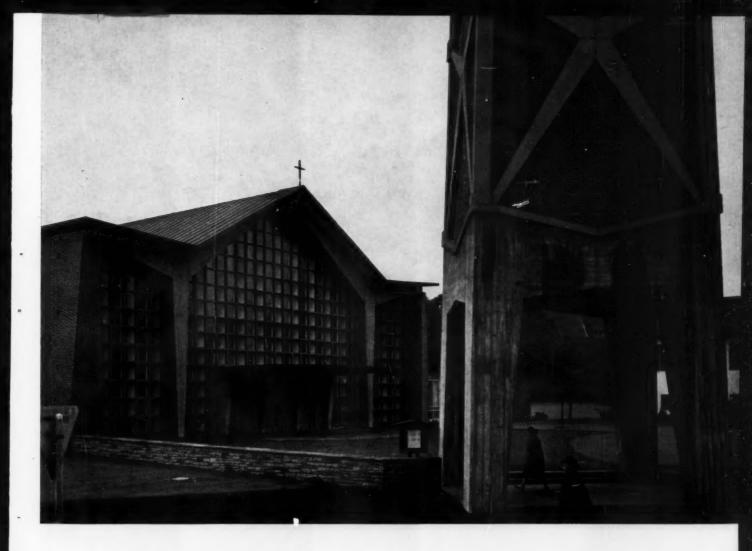






3 ST. ELIZABETH





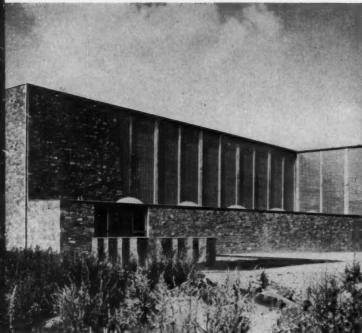
EVANGELICAL CHURCH, Bonnerstrasse, Düsseldorf-Benrath (W. Köngeter, architect). A bold and spirited structural pattern starting with the freestanding belfry, expressed clearly in the facade and continuing within, distinguishes this Protestant church between Düsseldorf and Benrath. The bell tower, of prefabricated concrete structural units with brick backing, is probably the most striking in Germany. Note that the framing of the church proper is carried out beyond the glass of the facade, stating clearly that the unbroken flanks of brick are merely curtain walls. Having been thus prepared for the structure within, the unabashedly exposed concrete frames of the nave come as no surprise. The only finishing treatment given these handsomely tapered supports was a coat of white paint. The sanctuary wall, which like the side walls is of brick, was also painted white. The floor is red tile. For acoustical reasons the ceiling is of wood.

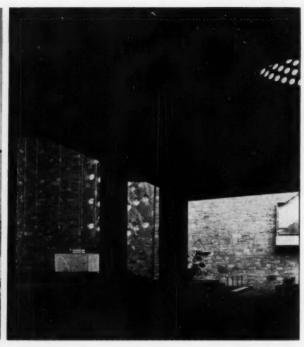


4 EVANGELICAL CHURCH





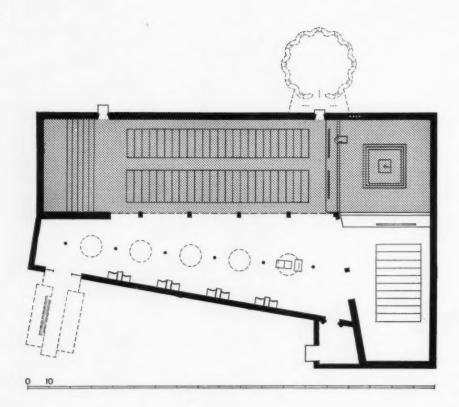




Arthur Plau Ialso page 1771

5 st. Anna, Annaplatz, Düren (Rudolf Schwarz, architect). This pilgrimage church to the mother of the Virgin Mary — whose relics are contained within — is only one of many that have stood on this site for the last 1,200 years. Yet it is more than doubtful whether this small village near Aachen, a village almost totally leveled by war, has ever seen a church as superb as this. For Schwarz in his latest work has begun to explore the impact of spatial succession and counterpoint, and he is as successful with it as with the purified forms that characterized his earlier churches. Among the greatest of these spatial impacts is the approach which takes one in under the low pilgrimage foyer and then throws one against the somberly impressive height of the nave. (Compare the "surprise" entry to St. Mark's Square.) Beyond, at right angles to the main nave, the shorter secondary nave can be felt rising upward. This is used mostly on weekdays. Both naves are bounded by a

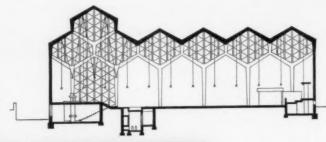




5 ST. ANNA

massive solid wall on one side and a deep clerestory on the other. Glass blocks have rarely been employed so effectively. The stones (which make this one of the largest recent stone structures in Europe) are of warm earth colors, and were reclaimed from war's bombardment. Most had been consecrated in the previous church. By the right-angle meeting of these high solid walls, Schwarz wanted to convey the feeling of protection — a refuge. The floor is of black slate, the ceiling of raw unpainted concrete. The artificial lights in strings of eight in the naves and in single strings back of the altar are a delicate foil to the general massiveness. Behind the simple block of the altar, and penetrating the wall to the outside, is a symbolic tree of life rising from floor to ceiling. The uncompromising severity of the exterior — windowless except at the inner corner — will be softened in the future by a detached belfry in front and semi-detached circular sacristy on the long north side.









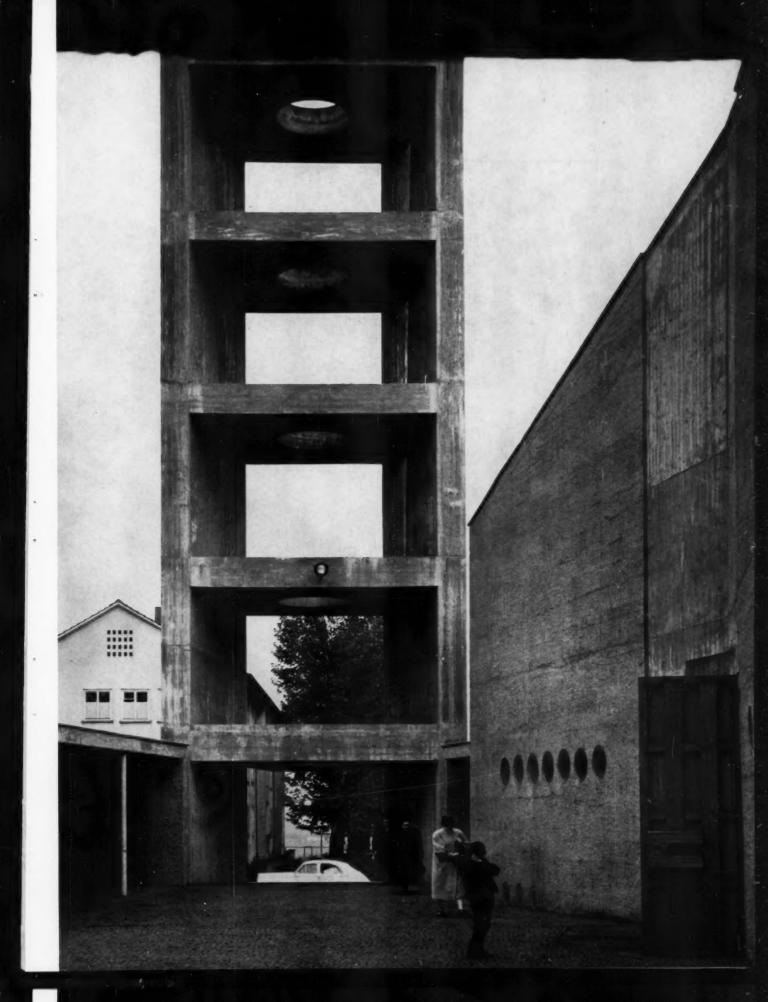
ST. JOSEPH, Braunstrasse, Cologne-Braunsfeld (Rudolf Schwarz and Josef Bernard, architects). In an essay of constructivist expressionism unusual for Schwarz, a church of powerful structural interest has been realized notwithstanding a spartan rectangular shape. The lateral walls are framed by six reinforced concrete "Y's" which are equally exposed inside and out. On top of these runs a clerestory of lozenge-shaped units which let the roof planes parallel the Y framing. The folded planes of the roof are of light concrete panels. The walls between the framing are of brick, exposed without, plastered and painted within, except at the chancel where the honeycomb windows are brought to the ground and extended up an extra lozenge. Although the glass is translucent, and hence restrains some of the illumination, the light in the church approaches the clinical in intensity. All structural members are white; wall light blue; floor tan.

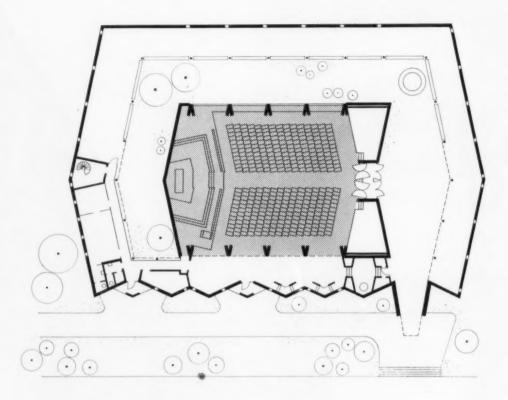






ST. MAURITIUS, Glockenwaldstrasse, Saarbrücken (Albert Dietz, architect). This church is one of the very few in Europe, or elsewhere for that matter, to realize — and solve — the problem of the churchly approach. For one pushes open a door and enters most churches too abruptly, and leaves too shatteringly, with no visual or spiritual preparation. However in St. Mauritius one is physically introduced to the "church concept" by an entrance forecourt and cloister. (Compare the 12th-century St. Ambrogio in Milan.) In addition to being an intermedium between the secular and the religious, the semi-enclosed front court not only enables but encourages one to stop and chat with one's friends or the minister. In a way it extends the feeling of brotherly love of the church beyond the front door. The cloister in addition permits one to stroll back and forth under cover collecting one's thoughts or talking with a friend. One approaches this entry under the



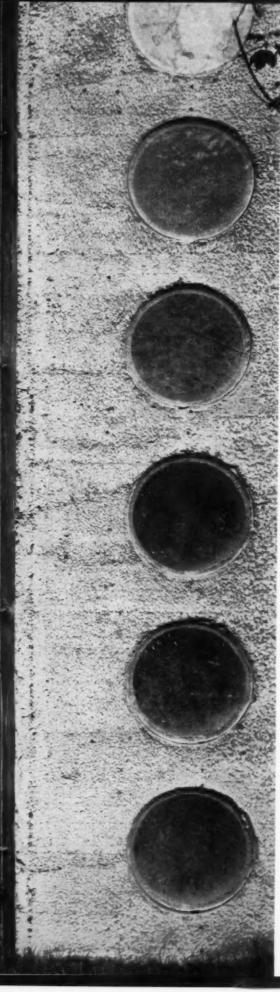


7 ST. MAURITIUS

splayed bell tower. The interior of St. Mauritius — the saint was a 3rd-century martyr — is a simple, almost colorless foil for the magnificent windows which fill most of both sides. These are made of irregularly shaped multi-colored blocks of glass several inches thick set in concrete — and called belonglas. Designed by Professor Boris Kleint of Saarbrücken and executed by Gabriel Loire of Chartres, they are among the finest abstract windows to be seen in Europe. The whole room is flooded with colored light from them. Structurally the church is supported by reinforced concrete bents splayed to make a roof of triangular sections. (Note the angled entrance and chancel walls in plan.) Radiators are located between these bents just above floor level and concealed fluorescent lights between them at the top. There are no visible lighting fixtures. The nave, which seats four hundred, is augmented at the rear by a small chapel and the choir.



と上す X



THIS NEW SHELL GAME

Function, Structure, Symbolism - or Art?

by ALBERT BUSH-BROWN, Assistant Professor, Architectural History, Massachusetts Institute of Technology

GIVEN ANOTHER DECADE or two of relief from austerity, we shall have lost that animus of financial economy which kept modern architecture honed sharp by functionalism. Already the third generation of modern architects pry at the fetters of their professional fathers and grandfathers. They doubt that economical adaptation to physical use produces good form, and few—even those who love new structural systems—are so naive as to believe that an efficient plan or structure necessarily originates handsome elevations.

All this skepticism within modern architecture is healthy; we are now critical of modern design while still favoring it. But the skeptic's position is not clear: will functionalism be sacrificed to monumental shells? And if so has the new shell game any ground rules? Is our search to be directed towards symbolic expression? Or do we seek that perfection of form — for art's sake — which we have tried every way of avoiding? Surely, by now we should realize that it's not identical to good function, or equivalent to structural expression, or morally valuable, nor even economical. Yet recent forays into thin-shelled monumentalism, subordinating function so often, seem to strive for symbolism or

Exactly the dilemma confronting symbolists and functionalists today faced architects about 1875 in a way clearly revealing issues confused in the modern situation. There were then two camps: the Ruskinians and the Huxleyites, both armed to the teeth, the former with moral symbolism, the latter with mechanistic utility, and they built ramparts and fought, without ever creating a great work of architecture.

structural novelty, rather than architectural beauty.

The Ruskinians were well entrenched when at Baltimore in 1876 Thomas Huxley, the distinguished English biologist, triumphantly assaulted their position by admiring a motley collection of ugly but highly useful structures that had been quickly and inexpensively remodelled for use at the new Johns Hopkins University: "It has been my fate to see great educational funds fossilize into mere bricks and mortar, in the petrifying springs of architecture, with nothing left to work the institution they were intended to support. . . . Whenever you do build, get an honest bricklayer, and make

him build . . . just such rooms as you really want, leaving ample space for expansion." Huxley envisioned for the Hopkins a vast group of serviceable laboratories and museums of science; "then, if you have a few hundred thousand dollars you don't know what to do with, send for an architect and tell him to put up a façade. If American is similar to English experience, any other course will probably lead you into having some stately structure, good for your architect's fame, but not in the least what you want."

Huxley's advice upset young architects almost as fully as his theories about evolution angered religious fundamentalists. For only recently, in 1857, had architects founded the American Institute of Architects to press by concerted action against apathy towards art and reliance upon "the honest bricklayer" in matters of building. Their task was made no easier by having a scientist espouse amateurism in an America already disposed toward frugality and insistent upon the democratic right of all men to decide any matter, even matters of taste. Nor did Huxley's opinion reinforce that sense of inferiority which European-oriented architects engendered by convincing merchant princes and manufacturers that America would have no worthy culture until she was refaced in the image of Bourges and the Baths of Caracalla.

How effectively the campaign of the professional architects sold American clients on an archaeological architecture is today everywhere evident, much of it detestable and soon to fall victim to that ubiquitous American pastime of destroying things, but some of it good for artistic reasons. Yet, an esthetic argument was not the chief selling point in the campaign for monumental architecture — but, rather, expression, which of course may refer to regionalism, or to structure, or to materials, and has in any case nothing whatever to do with formal beauty. For the Victorian Gothic architect, expression included all of these things, yet was most concerned with symbolism, especially of morality.

John Ruskin was the leading exponent of moral expression in art. His lectures about art were Messianic sermons, melodiously phrased, and they spellbound audiences with a potion blended of one part aesthetics



"Not until the National Academy of Design at New York . . . did the Society (for the Advancement of Truth in Art) find in America any architecture worthy of their praise."



"When at last it was completed, Memorial Hall (Harvard) was a picturesque, imposing mass of red brick . . . topped by cast-iron cox-comb . . . dreadfully effective when washed by moonlight."

and two parts ethics. No one today can for a moment seriously believe his theme, published in *The Seven Lamps of Architecture* in 1849, that what is good morally will be great esthetically and since Gothic architecture alone reflects a Christian society, we must endeavor to correct modern corruption by building Gothic Revival monuments.

Yet it was exactly that collection of inaccurate observations and non sequiturs which captivated Victorian pocketbooks and sentiments so beguilingly that a group of young architects at New York in 1863 founded that delightfully exclusive institution, The Society for the Advancement of Truth in Art. Dedicated to promoting Ruskin's ideas, the Society attacked Renaissance style, believing with the Englishman, "it is the moral nature of it which is corrupt. It is base, unnatural, unfruitful, unenjoyable and impious." In their magazine The New Path, the Society published essays written from a Ruskinian bias, and so popular was their reception that Ruskin thanked an American editor for a "heartier appreciation and a better understanding of what I am and mean, than I have ever met in England." Not until the National Academy of Design at New York, constructed between 1862 and 1865, did the Society find in America any architecture worthy of their praise. That building, designed by Peter Bonnet Wight, was the Society's greatest triumph: a colorful palace in Venetian Gothic style, it was a bit of whimsy livening the scene with tracery and brick patterns polychromed in reds, ochres and yellows. Following the example set by Ruskin at the Oxford Museum, Wight himself brought to the stone-cutters natural foliage to be studied as models for the capitals. For Wight believed that decoration should be designed by artisans; he wanted "to give workmen opportunity to think."

Having moralized the stones of New York, the Ruskinian muse perched on the shoulder of Charles Eliot Norton at Cambridge, where Harvard's distinguished professor of Fine Arts successfully inspired many an undergraduate to believe that "we have, as a nation, painfully displayed our disregard of the ennobling influences of fine architecture upon national character. . . ." Like his close friend Ruskin, Norton was persuaded that morality and esthetics were inseparable: "The highest aim of education is the development of character and the best means to this end is culture of the imagination, a faculty best nourished by study of the fine arts." This belief led Norton to attempt to enhance the beauty of environment at Harvard by taking active part in overseeing the character of Memorial Hall, built in 1865-1878. His hopes were high when Ware and Van Brunt's Gothic design won the competition, for he saw in it a large, Cathedral-like fabric containing a theater, dining hall and a noble memorial transept to be dedicated by inscriptions and images in colored glass to the dead of the Civil War. Norton even inspired Ruskin to express interest in the building. When at last it was completed, Memorial Hall was a picturesque, imposing mass of red brick with

colorfully shingled roofs topped by cast-iron cox comb—dreadfully effective when washed by moonlight. But the building was a tragedy of errors in design, and Norton himself later admitted that "a great educational influence has been perverted." It was his misfortune not to find any modern architecture meeting his standards for beauty and morality; as late as 1904, Norton still sought an ideal: "Every one who recognizes the importance of fine architecture as an influence in the education of youth . . . must regret the loss of opportunity to enhance the dignity and beauty of Harvard College by means of the character and arrangement of the buildings. . . . "

The Huxleyites too thought Memorial Hall a failure. One of them, Clarence Cook, a convert from Ruskin's parish, excoriated the tastemaker-architect and his merchant prince: "The Museum of Fine Arts [Boston] and the Memorial Hall in Cambridge [both Victorian Gothic] . . . are examples of what comes of building getting into the hands of the literary, critical men. artstudents, with their heads crammed full of remembered bits of Old World architecture, and their portfolios stuffed with photographs of more and more bits. . . . Where architects abound, the art of building always deteriorates." This was an extreme position and demonstrably false, but it seemed to Cook that American architectural history from Williamsburg to Memorial Hall had run steadily downhill. He admired the fine craftsmanship, ornamentation and design in cottages and farm houses built by anonymous carpenters in the pre-Revolutionary period: "The general excellence that marks the dwellings of any people is a proof of the non-existence of professional architects among that people. . . . Did architects design the houses of Venice? Architects may have designed the bad ones, but never the good ones."

Cook's attack against the architectural profession drove home the wedge of functionalism fashioned by nineteenth century engineers and scientists. Utility was a watchword for industrial society. American designers of machinery found in strict adaptation to use a principle guaranteeing performance and beauty; John Willis Griffiths, designer of the first extreme clipper ship, lectured the East Coast at mid-century, announcing the idea that form produced in accordance with functional needs not only sails fastest and carries large cargoes, but is beautiful. It was this mechanistic principle that caused scientists to dispute Ruskin's handicraft morality; thus Daniel Coit Gilman, President of the Johns Hopkins University set before Ruskin the technological splendor of machinery: "Ruskin may scout the work of machinery. . . . But even Ruskin cannot suppress the fact that machinery brings to every cottage of our day comforts and adornments which in the days of Queen Bess . . . were not known outside the palace." Gilman saw in machinery not merely material production but beauty, which to him was apparent in the Brooklyn Bridge, in ships such as the "Aurania," and in complex machine tools such as Rowland's dividing engine, which "has beauty of its own, not that of the human form nor that of a running brook, but the beauty of perfect adaptation to a purpose. . . ."

Quite obviously Gilman would not want for his university at Baltimore "a medieval pile" — "but a series of modern institutions; not a monumental, but a serviceable group of structures. The middle ages have not built any cloisters for us; why should we build for the middle ages?" Coupled with his dislike for medievalism was Gilman's disdain for what he regarded as the technical incompetence of professional architects. His laboratories at the Hopkins were to be filled with machinery for heating and ventilation, for supplying gas, water, and light, and for removing offensive dust and gas — all arranged by "a professor who looks after these things in advance — instead of an architect who forgets them altogether."

Typical of what that professor produced in the way of architecture is the Ward Pavilion at the Johns Hopkins Hospital. It was designed by a physician, namely John Shaw Billings. His concept for a hospital differed sharply from the traditional large block or converted mansion set up as a charitable house where the poor came to die; his was to be a modern institution built upon a plan fit to obtain "ventilation and heating and light and sunshine, as curative agents." He adopted the plan of having one-story detached pavilion wards, a plan advocated by practitioners such as Florence Nightingale, whose observations made during the Crimean War provided much statistical information about the curative performance of various types of building. Additional medical information some of which originated from a report made to the French Academy of Sciences in 1788, suggested the dimensions of each pavilion. Set upon north-south axes so that the sun gained access to both sides on each day, each pavilion stood apart from the others so as to gain ventilation and insulation. Walls were made double in thickness, enclosing a hollow space that insulated the ward. Further attention to utility appeared in the abundant provisions made for heating and ventilation, the consolidation of plumbing, and the plan which enabled a single nurse easily to supervise a large number of patients. These arrangements made the ward an efficient machine.

Such a machine physicians had long hoped to build. One doctor blamed architects and trustees for the backward state of hospital design: "Unfortunately, physicians have rarely the privilege of building hospitals: and even if they are permitted to suggest the plans, they find them so manipulated by trustees or architects that the essential points are . . . thoroughly obliterated." Nearly all physicians echoed Huxley's lament about the useless expenditures made by architects; thus Dr. Francis Henry Brown wrote in 1879: "Architects are tempted with permanent materials in their hands, to devote too large an expenditure to display and effect, making the buildings expensive in indirect proportion to the use for which they are intended."

But perhaps the most serious among the physicians'



"... Ward Pavilion at the Johns Hopkins Hospital... designed by a physician, John Shaw Billings... 'to obtain ventilation and heating and light and sunshine, as curative agents'"



"'How a museum should be constructed and arranged, so as to combine the maximum utility with economy of space and of money, will be best shown by an account of the Museum of Comparative Zoology at Harvard . . .'"

charges against the architect was that he strove for monumentality. Experience during the Civil War with temporary, wooden barracks had convinced Surgeon-General Woodworth that "the old, magnificent hospitals, built as monuments for all time, will be abandoned for the simple pavilion of indefinite existence; and the only strictly permanent parts of the modern hospital will be the executive building, kitchen, laundry, and engine-house." English opinion, as expressed by Dr. Galton, agreed: "Do not build for a long futurity. Buildings used for the reception of the sick become permeated with organic impurities, and . . . they should be pulled down and entirely rebuilt on a fresh site peroidically." This was also the belief held by Billings whose report to the trustees at the Hopkins said that "no hospital should be constructed with a view to its being used more than fifteen years." For he subscribed to Dr. Brown's view that "A hospital should never be an architectural monument. . . . Simplicity, almost severe in its character, should mark its construction. Ornament increases the original expense and requires continued care and work." Thus for the Hopkins Hospital, Billings decided that "no utility should be sacrificed for the sake of architectural ornament, and the main purpose . . . should be fully worked out in the plans before any attention was paid to external appearance. . . ." One glance at the "external appearance" resulting from Billings' functionalism reveals how far removed was the professor-scientist from the Ruskinian-architect; it is a wall of ice.

Exactly this esthetic glacier of functionalism pushed up that vast terminal morain, the University Museum, built at Harvard during the nineteenth century. There, where Norton attempted to turn Memorial Hall into an "ennobling influence," was a scientist with ideas similar to Gilman's, Norton's own cousin, Charles William Eliot. A chemist who had planned a laboratory at the Massachusetts Institute of Technology, Eliot early adopted utility as his standard in architecture. Ruskin never amused him, not even for a moment; beauty demonstrably had nothing to do with morality: "I have been much struck with the fact . . . that the love of a place, of a form, of an image, of an altar, of its flowers, furniture, decorations or implements, has nothing whatever to do with a moral life, with religion so-called." He admired simple, mason-built buildings of the early nineteenth century. Architecture, it seemed to Eliot, deterred progress: "Our way of building for the present generation only is the best way. . . . It is not well that a house should last a century - it becomes unsuited to the improved habits of succeeding generations. The same is true of public buildings."

Utility — blended with Eliot's notion of flexible, even expendable, structures — conditioned the plan and bleak appearance of the University Museum, begun at Harvard in 1858. That museum is largely a monument to one great man, Louis Agassiz, the biologist, who intended his museum to be a center for object-directed education about flora and fauna and the laws governing their

growth. The Museum's factory-type structure, consisting of cast-iron columns imbedded in brick walls and carrying brick vaults, enclosed many isolated, fireproofed rooms, two stories tall, with balconies running around their perimeters. Such rooms enabled Agassiz to exhibit a series of biological ideas, assembling within one exhibition all the animals and plants, whether mammoth or microscopic, whether stuffed specimens or fossils, needed for displaying a new typology. The animal kingdom could be exhibited from several points of view: variations in legs, beaks and proportions of heads in accordance with function; all animal types living in one environment; perfect specimens of animal types on each of the continents. Here was a museum building that enabled scientists to exhibit the "vast connections between animals, both fossils and moderns."

The uniqueness of that American museum did not escape the notice of English scientists. One of the great naturalists of England, Alfred Russel Wallace, gave Agassiz full credit for a great advance in architecture: "How a museum should be constructed and arranged, so as to combine the maximum utility with economy of space and of money, will be best shown by an account of the Museum of Comparative Zoology at Harvard." Wallace, like other scientists, objected to the traditional sort of museum, either new or a remodelled palace, "with large halls where the visitor is lost in the maze of the cases, which, to him seem placed without purpose and filled only for the sake of not leaving them empty." What use to biology were large halls, magnificent staircases, lofty galleries, enormous colonnades, sculptural decoration, pilasters, cornices and well-lighted spaces, all wasted? He agreed with Agassiz's decision to ignore any architectural merit, gaining the "advantage of comparatively small rooms, intended for a special purpose and for that alone. . . ."

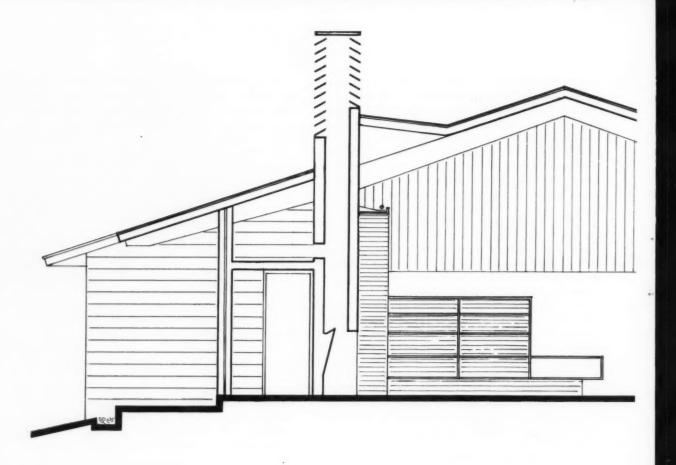
This sort of architectural sacrifice to scientific use excited praise from the English scientist, who disliked Victorian Gothic monuments such as the Museum of Natural History at South Kensington because they taught nothing about biology. A dozen visits to the Museum at London would not instill the lessen so clearly told at Harvard - "the lesson that each continent has its peculiar form of life, and that the greatest similarity in geographical position and climate may be accompanied by a complete diversity in animal inhabitants." Nor did Wallace's admiring glance fail to note the irony that principles announced in Darwin's Origin of Species, published in 1859, were best visible in a museum planned by Agassiz, who opposed evolutionary theory: "It is surely an anomaly that the naturalist who was most opposed to the theory of evolution should be the first to arrange his museum in such a way as best to illustrate that theory, while in the land of Darwin no step has been taken to escape from the monotonous routine of one great systematic series of crowded specimens arranged in lofty halls and palatial galleries, which may excite wonder but which are calculated to teach no definite lesson."

Such a compliment to the American trait of evaluating utility to science and education higher than artistic merit naturally fanned the fire of those who believed that Cook was surely right when he attacked the architect for being a literary man with a portfolio stuffed with photographs of Old World architecture. But Charles Eliot Norton was equally right when he took Agassiz to task for failing to create in the University Museum a beautiful building: "What provision has been made that in its outward aspect it shall correspond with the worth and grandeur of the collections it is to hold and the studies that are to be carried on within it. . . ? Convenience of internal arrangement has been sought without regard to external beauty. . . . Its bare, shawdowless walls, unadorned by carven columns or memorial statues, will stand incapable of affording support for those associations which endear every human work of worth . . . as the ivy clings to the stone, adding beauty to beauty. . . .'

Norton's question to functionalists is today's dilemma. True, modern architecture is not faced with so blatant an avoidance of visual amenity. We have achieved much by means of functionalism, not only because we have in machined forms a positive aesthetic, but also because mature functionalists have sought performance satisfying more than physical use. Modern, enlightened functionalism has brought architecture into public esteem.

Yet, public approval of the modern architect's quest for performance would be greatly enhanced were buildings also admirable for being beautiful, thus making their performance complete. No need to be squeamish about beauty! Generations of men agree in attributing beauty to many buildings, both old and recent. Their agreement rests upon finding that all great architectural compositions are unified. That unity we know to have been accomplished by inspired attention to rhythm, scale, emphasis and subordination, inflection and balance. These — now as always — are the hallmarks of beautiful architecture. Neglected, as they were by the Huxleyites and Ruskinians, the result is not art, however novel, however useful, however symbolic.

There are now on many sides critics and architects seeking appropriateness in monumental forms. The shells are manipulated by expert prestidigitators. All compromise utility; few achieve beauty; some would even impute symbolism to the new forms. They rightly suspect that physical utility is not enough; but their quest for symbolism ignores the fact that only the beautiful solution becomes a powerful symbol. Subordinate function they will! But, unless its replacement is beauty, not symbolism, we risk losing everything gained by modern architecture. For many symbols fail to be beautiful; whereas nothing beautiful fails to be expressive. This fact Wright and the great Parisian Beaux-Arts men, Richardson and Sullivan, clearly saw to be the answer to the dilemma. To ignore it by seeking symbolism or structural novelty has never done architects anything but harm.



THE FRANTZ-TALCOTT HOUSE, PRINCETON, N. J.

Kenneth Kassler Associates, Architects; Lewis C. Bowers & Sons, Inc., Builders



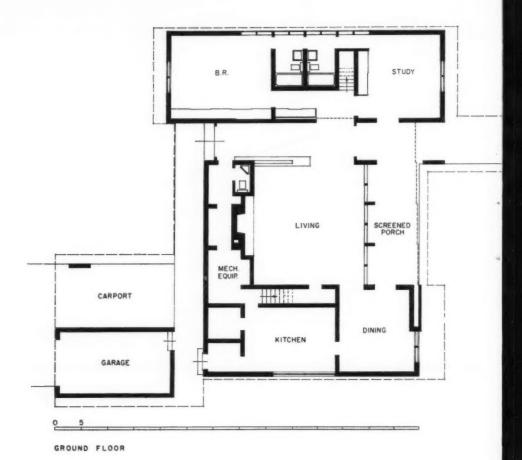






Under a crisp ceiling of vertical-grain Douglas fir boards the space of this house achieves an authentically expansive quality in both the height and light afforded by long clerestories under the lifted extensions of a "gull-wing" profile. Though set pleasantly in the middle of an old apple orchard, there is little in the street approach



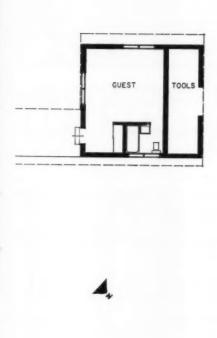


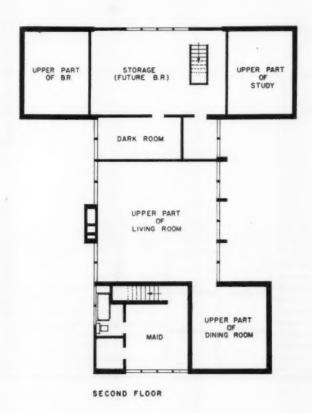
to suggest the sensuous and convenient spaces which develop inside. From the sheltered carport walk a recessed entry opens into a long-vistaed passage which runs first through the subdued light of the hall and grows progressively brighter as it crosses the rear porch, the covered walkway, and terminates in the garden guest-





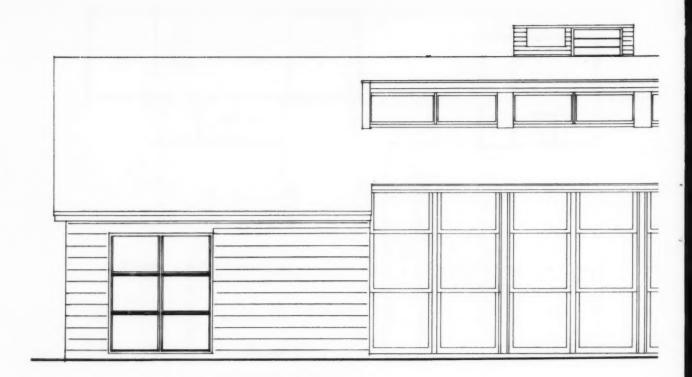






house. Just as pleasant as this skillful, centralizing axis is its coordinate counterpart which begins in the dining room, crosses behind large sliding screen panels, and finishes in the study. Access to this from the living room is through a bank of high, triple-hung windows, and is one of half a dozen complete circuit trips that can be





made through the spaces without retracing one's steps. In an essentially small house this is an enormously effective device in terms of convenience and sense of space. Unpainted block has been used for all exterior cavity walls and is simply effective except where it is seen together with the chimney brick. That conjunction and the

Joseph W. Molitor

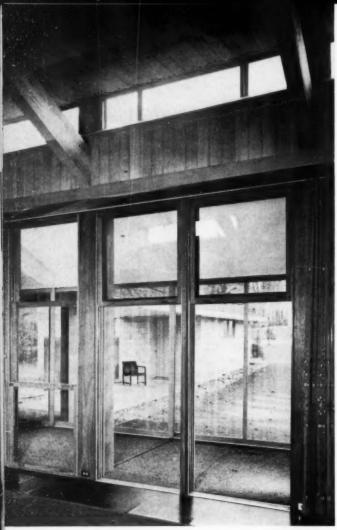






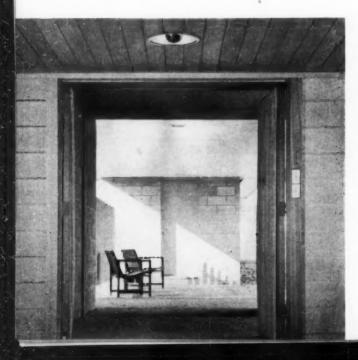
one between garage and house roofs will be questioned by some — particularly in a house that is characterized by great order as well as by great plasticity. The owners are two women archaeologists returned from many years in Greece as members of the American School of Classical Studies. Devoted as they are to the realities of an-





Joseph W. Molitor

tiquity, they are "averse to pseudo-architecture or pseudo-anything." They wanted instead a house that would seem spacious, would lend itself to entertaining, be easy to maintain, and pleasant all the year round. The north porch — opening into all the major rooms is the principal element employed in achieving these goals.

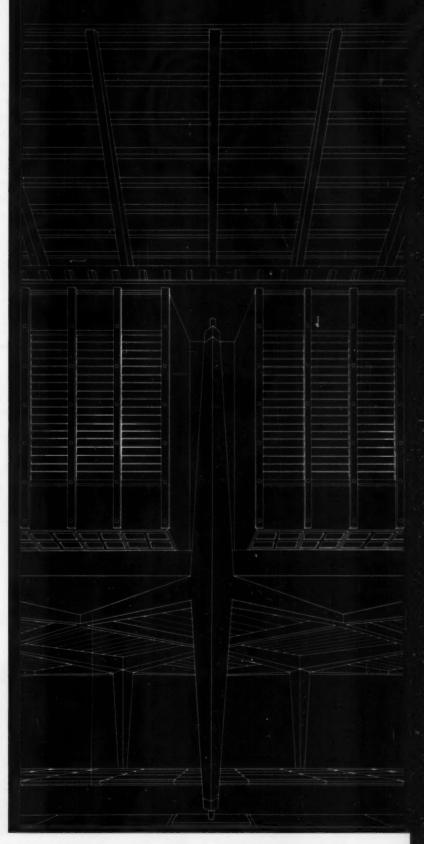


U. S. EMBASSY ACCRA, GHANA

Harry Weese & Associates Architects

Frank J. Kornacker & Associates Structural Engineers

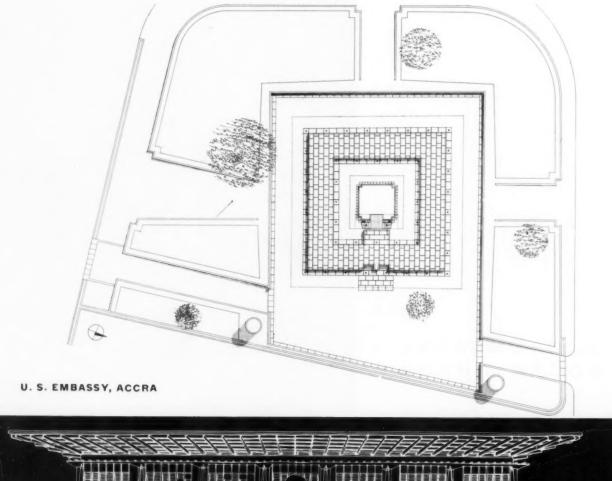
Kravolec & Best Mechanical Engineers



When sensitively handled, the shaping of basic structural components can give modern architecture a new plasticity of form which is technologAn embassy building will be successful when it brings an appropriate presence to the local scene. Such a structure will be composed of a familiar fabric the climate will smile upon, and will convey to those who see it a character dignified but not pompous, sprightly yet not bizarre, restrained but not timid, efficient, cordial, and to a degree interestingly foreign — although very much at one with its setting. It is unlikely that any single building could express all of these qualities to many people, yet this design displays most of them, and this is the measure of its achievement.

For accra, the scheme is essentially a hollow square raised above the ground for security, breeze and termite protection. It is one room deep next an inner verandah that looks down upon the central pool and the open geometry of the stairway.

The jalousies and 10 ft overhang will break down the merciless sun and sky-glare; through ventilation will come via the prevailing breezes as they blow under the parasol and in over the ceiling through an especially contrived plenum. Air conditioning will be installed, but power is unreliable.

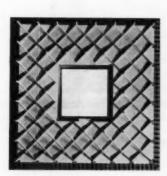


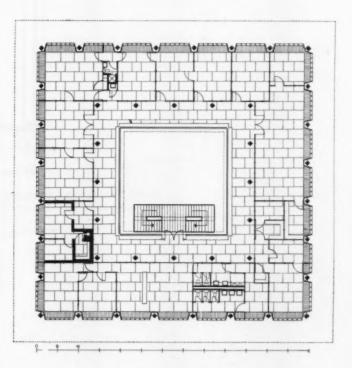


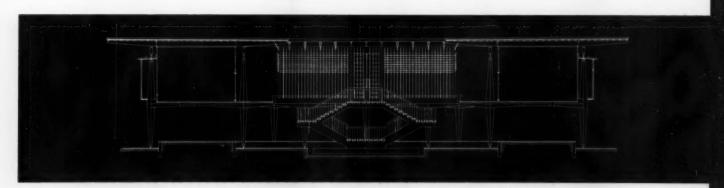
ically and esthetically appropriate. Of Accra, Architect Weese says, "The columns grow out of the edge of the slab in response to the need for stability against

Due to the local popularity of pseudo-Mediterranean architecture, wood — the only indigenous building material to be had — fell into disuse. For the embassy however, mahogany — readily available and cheap — will be extensively used. Stained a rich red-brown, it should contrast interestingly with the concrete, which will be painted white.

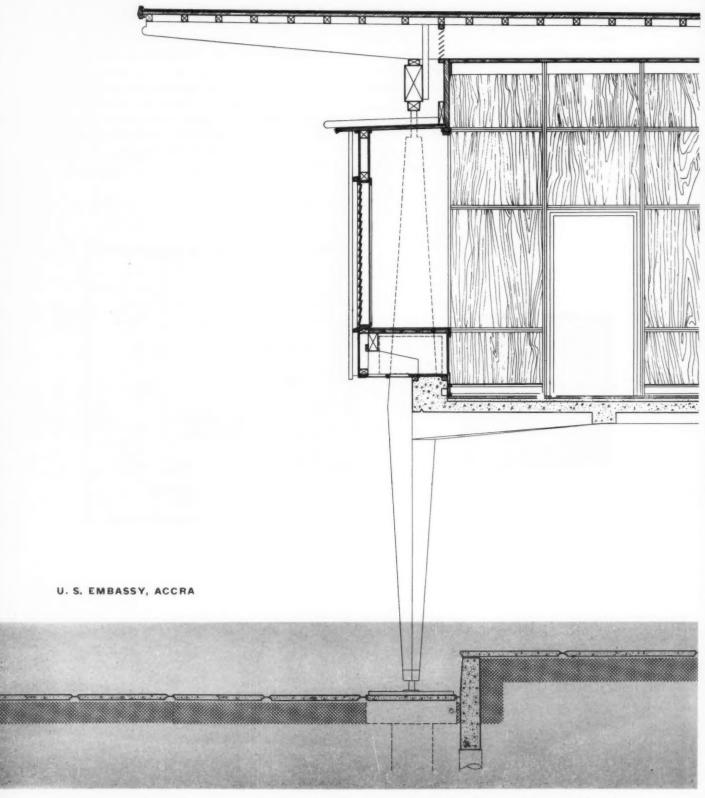
The earthquake-resistant structure, a raised hollow-square concrete platform framed in diagrid, will be carried on shaped concrete columns placed in a shallow moat floored in red laterite earth. A raised platform will extend under the building proper. The columns will be square in cross-section, tapering from 6 in. at the ferrule to 16 in. at the root; the top and bottom metal pins will be 2 in. in diameter. In plan, the columns are rotated 45 deg. and staggered to meet alternating intersections of the diagrid. This rotation and staggering of columns enables corners to be turned in the diagrid system without altering the pattern. The shaped and interlacing members make a decorative pattern for the soffit — a sometimes neglected surface.



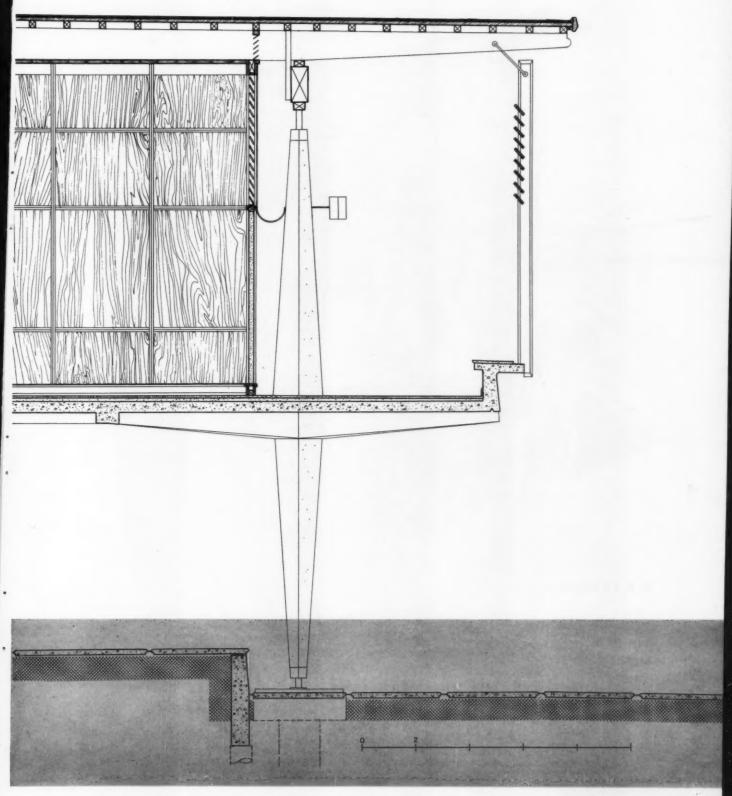




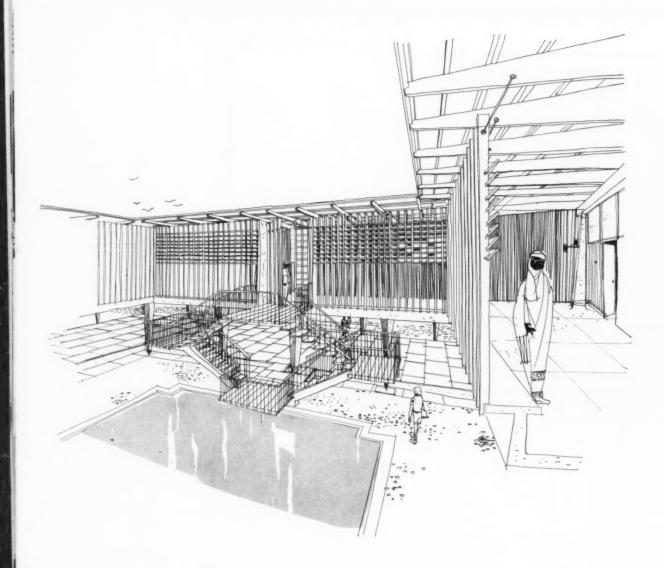
earthquake and wind. Their squared and tapered forms are reminiscent of wood; of spear points or finials or buttresses as found in sub-Sahara mud architecture. They



are akin to the stalagmite ant-hills of red earth found everywhere in the land, and with the multiplicity of wood members in the parasol and slatted infilling, convey

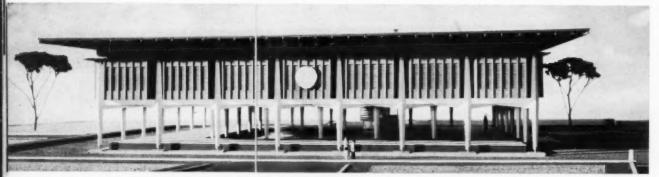


some of the richness of imagery and decoration in the African psyche. These forms are nonetheless functional; the decorative effect stems from express-



U. S. EMBASSY, ACCRA

Model maker: Callaghan-Seiler, Photo: Hedrich-Blessing



ing the structural unit and from its proliferation into a spatial pattern that attempts to characterize African aspirations for architecture."

ART, ARTISTS AND ARCHITECTURE



MOSAICS BY JOSEPH YOUNG



ART, ARTISTS AND ARCHITECTURE

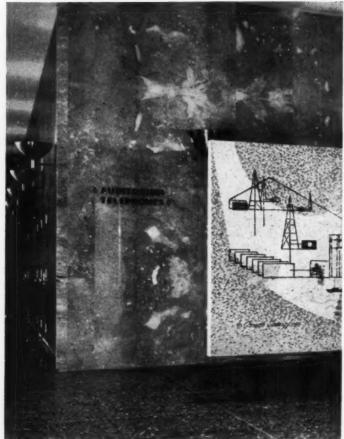


Los Angeles Police Facilities Building Mural (right) depicts city's architectural growth, shields telephones (above). Architects: Welton Becket & Associates and J. E. Staunton



Warren Reynolds, INFINITY INC.





Julius Shulman

Mosaic detail on preceding page is from mural forming tobacco shop in Southdale Shopping Center, Minneapolis (bottom left); Victor Gruen, Architect. Left: illuminated plastic screen with water flowing over surface for garden of Los Angeles house; Alfred T. Gilman, Architect. Below: entrance mural for Don Boscoe Technical High School, South San Gabriel, Calif.; Barker and Ott, Architects

David Share





To the word tradition . . . we must add the word creative . . . and we begin to make sense. For it is the creative, positive forces of the past that offer . . . evidence of the possibility of integration of the arts in our time."

Such is the personal philosophy that led Joseph L. Young to turn from journalism to develop one of the earliest architectural art mediums — mosaic murals — into a contemporary idiom for walls, floors or architectural facings.

Young specializes in designing and personally executing murals for contemporary architecture, and concentrates on working closely with the architect and his client. Unlike most artists who work on large-scale mosaic projects, Young stoutly insists that a true integration of the art is only possible when an artist uses both creative design and craft skills, and personally executes every operation to assure the realization of drafting board concepts.

From original sketches, full scale cartoons are drawn, with each cut of the tile in mind. Then, like a huge jig-saw puzzle, the parts (tesserae) of Venetian glass are cut to shape in the studio, and carefully assembled in reverse on a paper backing. After all revisions are made, the mural is divided into sections and carefully moved to the building site. The mosaic faces of the sections are then pressed by tile setters into special concrete spread over the area to be covered, and the paper is peeled from the surface. After cleaning and polishing, the murals are quite permanent, and periodic cleaning requires only a simple washing down of the surface with a hose. Fifty or more colors are generally incorporated in each mural.

In Europe and South America, where the craft has been handed down from father to son, mosaic has been, until recently, much better known than in the United States. And in the past, the general custom for American architects and tile contractors wishing to use mosaic, was to order sectional inlays by the square foot sent over from Italy. Import duties, unavoidable delays and lack of control tended to restrict the use of mosaics. But with the current resurgence of interest in the medium, many skilled artists and craftsmen are developing here.



Two of Joseph Young's important commissions have been for Temple Emanuel, Beverly Hills, Calif.; Sidney Eisenshlat, Architect. Top right is a completed mosaic for temple lobby, depicting study, assembly and prayer. Right: study of mosaic bas-relief panels for chapel (detail above) shows seven days of creation





Joseph Young first became interested in mosaics while traveling in Italy on an Edwin Austin Abbey mural painting fellowship during 1950. Originally interested in fresco painting, he became so fascinated with the contemporary possibilities of mosaic that he stayed as a guest of the American Academy in Rome to study with a "mosaic family" of artisans. A native of Pittsburgh, Pennsylvania, Young now has his studio in Los Angeles, California, and follows the tradition of precise, patient craftsmanship by cutting the stones and prefabricating each mosaic section by hand.

Young has completed major mosaic mural commissions for a number of civic, religious and educational buildings — including the ones pictured here. His latest work (shown in project form above) for the Temple Emanuel Chapel in Beverly Hills, reveals a highly interesting new development in his style.

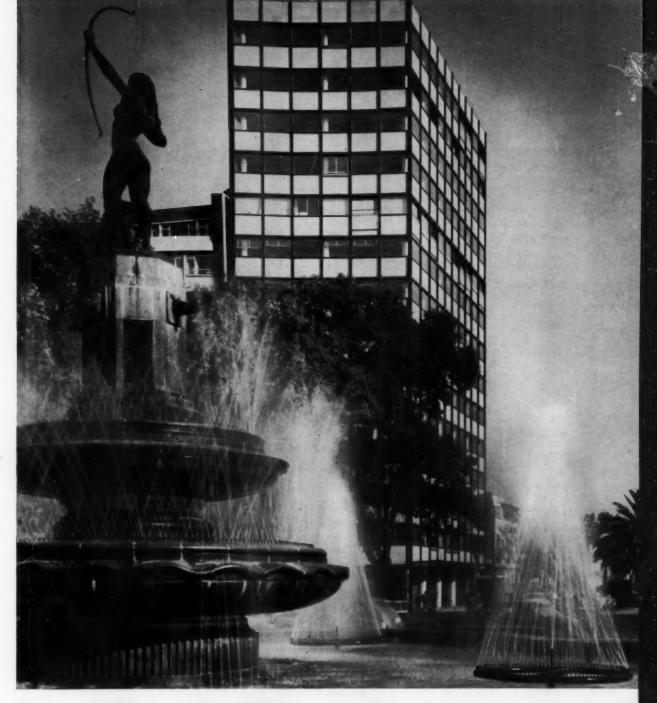
Previous work consisted mainly of large-scale flat mosaics, such as the 36 foot by 6 foot cantilevered mural for the Los Angeles Police Facilities Building. In these he sought for vibrant, rich colors and "ambulatory perspectives"—or

directional designs to be seen in passing from a series of view-points, and thus not impede with the natural flow of traffic. In others, he used series of abstracted mosaic inserts — such as those for Southdale Shopping Center, planned in coordination with Victor Gruen, Rudy Baumfeld and Dike Nagano.

In the new work, a series of tall vertical panels depict the Biblical seven days of creation. They are conceived as sculptured bas-reliefs, with a textured background and highlights of brilliant mosaic.

Young has been given one-man exhibitions on both East and West Coasts and has won numerous awards throughout the country. He was a guest panel speaker at the 1956 A.I.A. convention. Apart from mosaics, Young has also worked in such traditional mediums as fresco, encaustic, egg tempra and stained glass, as well as contemporary mediums of glazed tile, silicates and plastics.

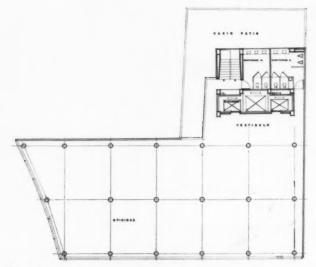
Currently, he has also been occupied with two projects to provide information on mosaics; a film, "The World In Mosaic," stressing the role of mosaics in architecture through history; and a book, "A Course In Making Mosaics" (Reinhold).



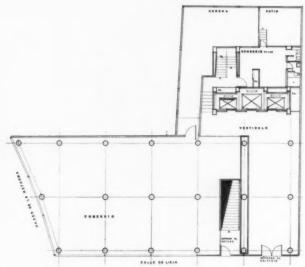
1: Mexico City, Mexico; Juan Sordo Madaleno, Architect

These two commercial buildings — one in Mexico, shown above and on the two following pages; the other in Atlanta, Georgia, on subsequent pages — have much in common. Both are examples of interesting wall construction; both are on busy urban thoroughfares; both are surrounded by light and air and greenery. They have their differences: The Mexican building's site is small and so is fully occupied by the structure; the Atlanta site, as will be seen, is large. The Mexican building's location on the broad Paseo de la Reforma, tree-lined and fountain-decked, provides as an integral part of the city-scape the open pleasantness which the Atlanta location did not. The Mexican building's lot size and soil conditions, and the local demand for office space, were all factors in determining the size of the building — small in comparison to the Atlanta structure.

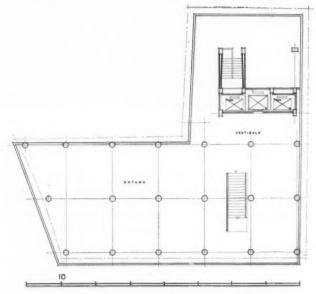
207



Typical upper floor



Ground floor

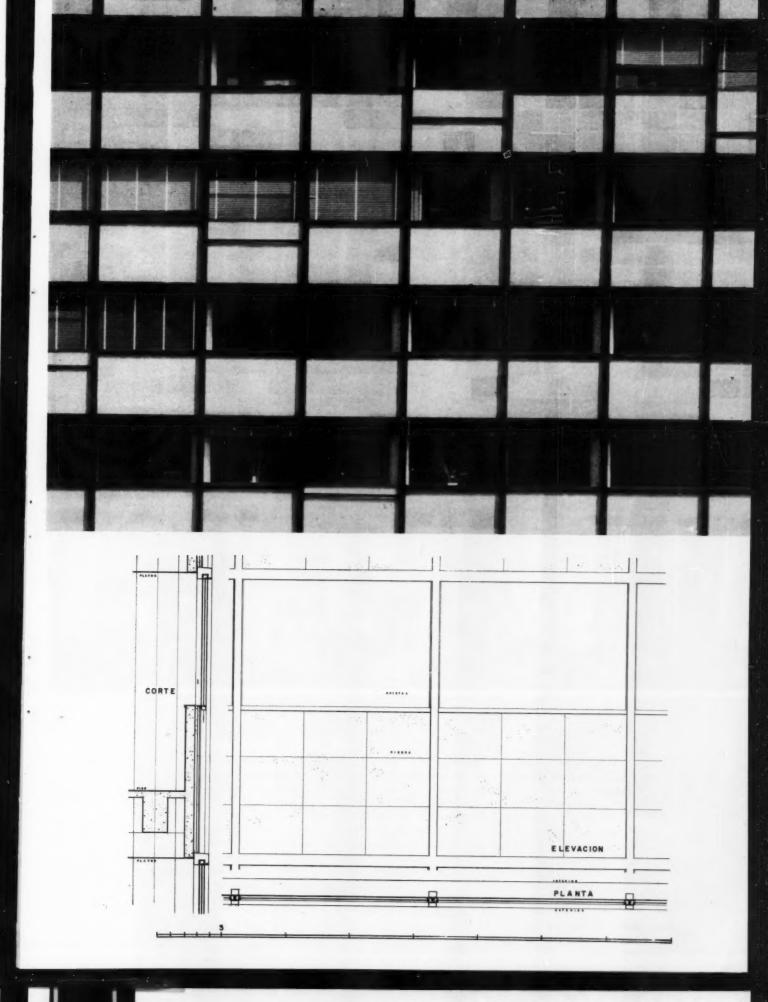


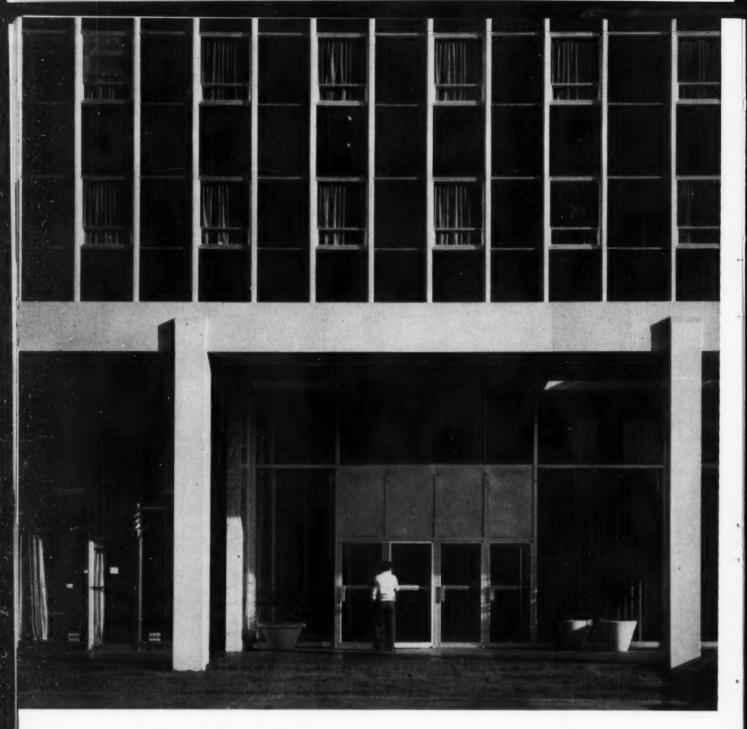
Basement

1: Mexico City

In using the small site's entire area, it was found that devoting the inner leg of the L-shaped plot to the vertical service core produced the maximum rentable area. Aside from this offset core, the structure is laid out in simple double bays; the entire frame is reinforced concrete. Note that the floor at ground level is store and shop space interrupted only by the lobby and access to the basement; this capitalizes on the advantages of the excellent shopping street on which the building faces.

The building skin, as will be seen in the drawings on the facing page, is actually a thin stone veneer which protects the exterior of the reinforced concrete spandrels, and steel-framed sash which slide vertically past the stone facings.





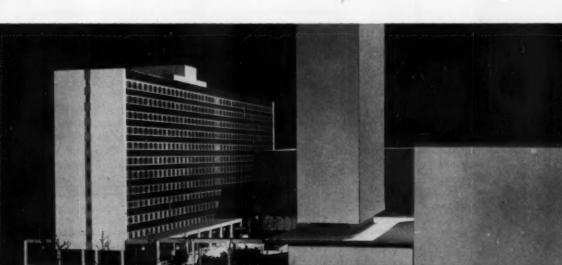
2: Atlanta, Georgia

Peachtree-Baker Building; Alexander & Rothschild, Architects; E. L. Daugherty, Landscape Architect; A. L. Ferry, Interior Consultant; W. H. Armstrong, W. E. Edwards, Structural Engineers

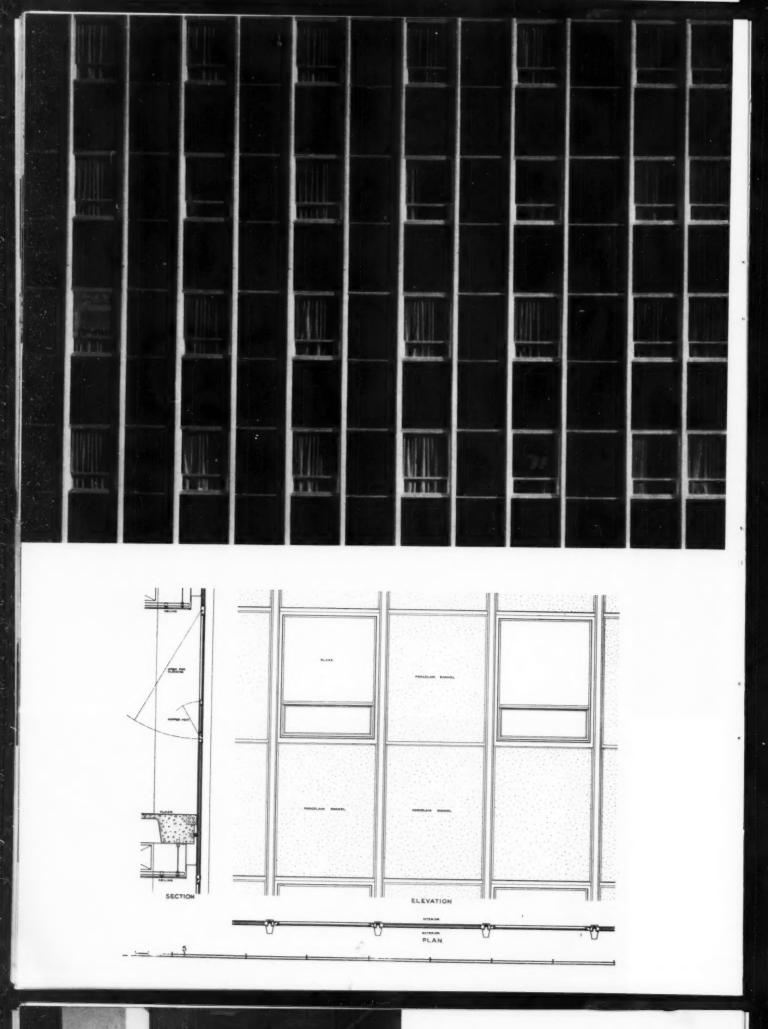
This is the first completed element of the proposed Peachtree Baker Center, which is shown in model form directly across-page. The Center is an overall plan for development of a 400-by-400-ft city block on the edge of Atlanta's downtown commercial district. Traffic conditions on the fairly narrow streets surrounding the site, the rather rugged topography and the value both practical and esthetic of assuring to tenants openness, air and a pleasant view, were among the factors which led to the decision to organize the buildings around a

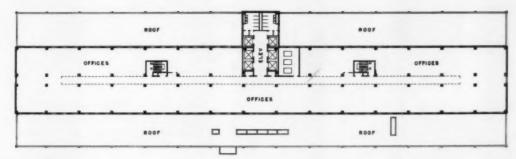
central court; all the structures are to have lobbies opening to this plaza. Underneath is a large parking garage. The Peachtree-Baker Building, owned by Consolidated Realty Co. of Atlanta, was constructed in accordance with requirements of the U. S. General Services Administration; it is for the most part occupied by the U. S. Internal Revenue Dept. and affiliated agencies.

Pedestrian and public and private transportation traffic flow constituted a major problem. Peachtree Street is heavily traveled; the other three surrounding streets are one-way; Atlanta's new expressway system will, at one nearby point, discharge into Baker Street; truck traffic approaches the Center from Harris and Baker Streets. After consultations with the city traffic department the above scheme was developed, with the drive-in court (shown in model below) for access to the buildings and the underground garage. Due to the slope of the land, entrances to the garage and for truck unloading from other streets are at grade level.

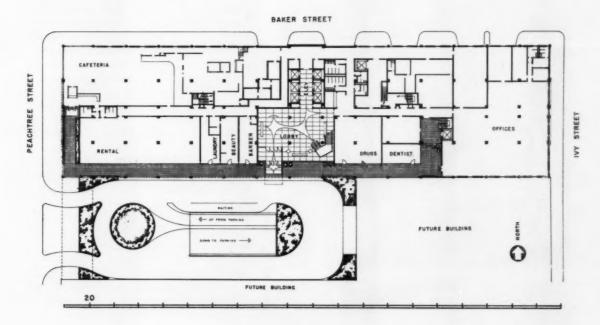


Photos (except of model) by Joseph W., Molitor





Typical upper floor



2: Atlanta, Georgia

Peachtree Street runs along the ridge which is the backbone of Atlanta, and the site of the Peachtree-Baker Building consequently slopes abruptly — Ivy St. is some 25 ft lower than Peachtree. This was used to gain entrance to the building at different levels, aiding in smoothing internal and external traffic flow and making parts of what might otherwise have been basement space available for office purposes. Above the ground floor, width of office floors was set by G.S.A. at 52 ft 8 in., their standard for optimum office layout; and bays were similarly standardized at 26 ft 6 in. The structure has concrete columns and joists. The service core tower was pulled out of the main office block to simplify framing and provide an accent on the long façade.

The colonuade along the court and part of the Peachtree St. sides of the building is intended to unify storefront appearance and provide a covered pedestrian way leading to the building lobby. Underneath, the paving is red brick as a reminder of Atlanta's once-traditional brick sidewalks. Walls at ends of the building, on the service tower and pent-houses are glazed white brick; a pattern of glass block is set into the elevator shaft.

North and south walls of the office tower are lightweight curtains of porcelain-enamel panels insulated with $1\frac{1}{2}$ in. of glass foam and $\frac{1}{4}$ in. asbestos backing. Vertical mullions, horizontal division strips and frames and sills of windows are aluminum as shown in details. The building was very rapidly enclosed thanks to the fact that the curtain-wall panels were prefabricated; the time saving was estimated as three months.

Corridor partitions are concrete block plastered both sides. Office partitions are movable.









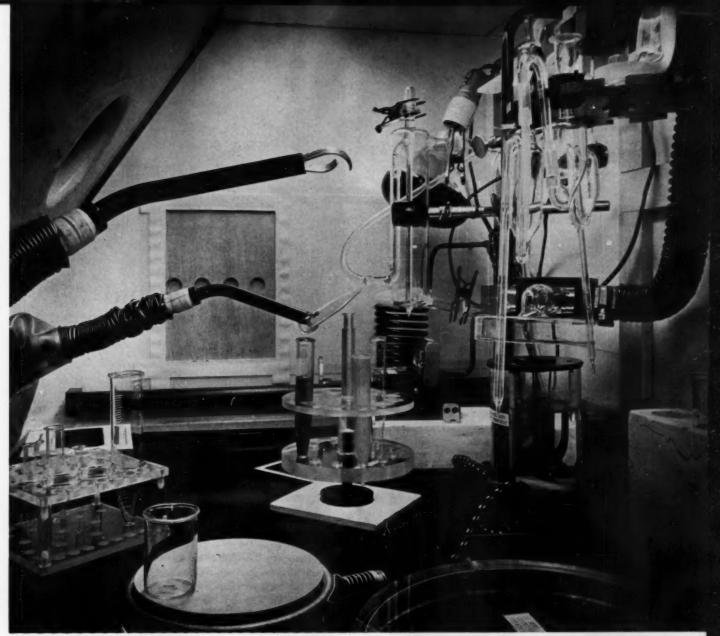
2: Atlanta, Georgia

Glass fiber curtains were used in place of venetian blinds on all windows to simplify maintenance. The walls in the corridor are covered with vinyl plastic of different colors and varying shades of colors to break the monotony of the uninterrupted length. Color schemes of floors and walls change from floor to floor to give distinction to each. Floor tile in offices and corridors is asphalt. Doors to offices are hollow metal with metal door frames. Toilet rooms on each floor have ceramic tile floor and wall tile to wainscot height. Metal partitions were used. Elevators are self-service or attendant-operated, fully automatic.

The main entrance lobby is approximately in the center of the building, facing the south colonnade and landscaped court area. Walls and columns are clad in Alabama white marble with vertical aluminum division strips between the panels. The floor is terrazzo; in it is a pattern evolved from the movement of people through the lobby area. A monumental open stair leads to the second floor of the building, where a great part of the business dealing with the public is transacted. Glass fiber curtains and comfortable contemporary furniture make the lobby an attractive meeting place or waiting room.

Heating and cooling for the nine office floors of the building is provided by a chilled water-hot water system, using a 420-ton centrifugal refrigeration machine for the cooling operation. All equipment is located in the penthouse. Each office floor has three air-handling units, one for each zone (north, central and south) controlled by an electronic pneumatic control system which allows any one zone to be cooled while others are being heated. Ducts along the ceiling take hot or cold air from the centrally located fan rooms to the offices.

The first floor and basement have various kinds of heating and cooling systems, depending on the uses of the areas and the lease arrangement with the tenant. Several package units and a central unit are used, heat for those being provided by the Georgia Power Company central steam system. There are also seven heat pumps installed, taking care of the heating and cooling of individual stores, which occupy relatively small areas.



Inside a "Berkeley box": a completely enclosed laboratory for work with radioactive materials

Dean Stone-Hugis Steccati

ARCHITECTURE, ATOMS AND A PEACEFUL WORLD

Second in a series of articles on the architectural implications in the design of buildings in the nuclear field, prepared with members of the Committee on Nuclear Facilities, A.I.A.

Type of Rediction	Alpha (c)	Beta (3)	Gamma (γ)
Nature	Particles (helium atom)	Particles (electrons)	Electromognetic rays
Penetration	Weak	Moderate	Deep
lonization	Strong	Light	Strong
Means of • Hazard	Inhaldrien Ingestien Absorption through skin		Exposure to ray
Damage due la Hazard	Eurns by centact Accumulation in body areas Cell destruction		Extensive internal damage Radiation sickness Death
Shielding	Rubber gloves Glass Distance (inches)	Materials of high density and law atomic number Metal Glass Plastic Rubber gloves	Materials of high density and high atomic number Lead Steel or Iron Concrete Water

Radioisotope work involves mainly three types of radiation: alpha, beta, gamma. Since effects are irreversible and cumulative, special protection against their hazards is necessary

Building Area	Use	Control
(OLD Public	Offices Conference rooms Counting (shielded) Shops Storage (radiation free) Lunch rooms & lockers, First eid Boiler & Fan roams	Positive pressure
WTERMEDIATE Low-level, semi-had radioactivity	Laboratories (law level Shops & Storage (radioactive material) Health Physics Health Chemistry Change rooms & Laundry (if any)	Megative pressures. Air controls Filters. Enclosures (hoods, boxes, junior caves) Local shieldings (of varying thicknesses) Temate control manipulators
HOT High-level redioectivity	Hot cells Cave Isotype storage (bulk) Decontomination Hot equipment storage	Negative pressure Air control Filters Shielding Equivalent thicknesses: 6-in, lead 9-in, steel 28-in, oncrete 88-in, weter: "Master-sleve" manipulaters

Progressive isolation of radioactive work areas locates "hot" (radioactive) areas for least accessibility. Shielding, ventilation are prime means for controlling hazards

LABORATORIES FOR RADIOACTIVE RESEARCH

By BERNIS E. BRAZIER, A.I.A. Committee on Nuclear Facilities

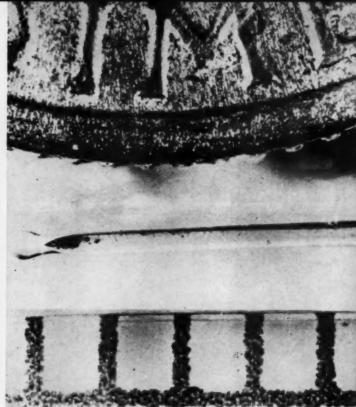
and ELISABETH K. THOMPSON, A.I.A.

LABORATORIES are all very much alike — in their basic requirements. The differences between them come from the conditions imposed by the specific field of research for which each provides. Superficially, a radio-chemistry building, for instance, is not very different from an ordinary chemistry building. But the nature of the materials processed in the radiochemistry building is such that the design of the building, as well as the operation of the laboratory, is very different from that of its non-radioactive prototype.

The basic needs of conventional laboratories — work space, routine equipment storage, good ventilation and light, fume hoods, sinks, benches — are equally basic in nuclear laboratories but everything about them is governed in the nuclear building by imperative considerations of protection for personnel (and for building and equipment) from the invisible and insidious radio-activity of the materials used in nuclear research.

To design for these considerations, the architect needs an understanding of the peculiar properties of radioactive materials, of the hazards involved in their handling and of the means for protection from them. The increasingly widespread use of the phenomena of radioactivity in such fields as industry, medicine and agriculture, as well as in pure research, means that the architect can expect more and more to be confronted with the need for at least a conversant knowledge of the





Use of radioisotopes in industry, medicine, agriculture as well as research has increased rapidly in ten years since isolopes first became available. Potential for future is that radioisotopes may be greatest peaceful use of atomic energy. Basic research, using isotopes, has solved some of mystery of photosynthesis (left), chemical process by which plants convert water and carbon dioxide in sunlight to carbohydrates, releasing oxygen. Some man-made isotopes exist only in minute quantity (c.f. dime, MM scale above), like neptunium, made by bombarding uranium (right)

basic principles which govern the design of buildings where radioactive materials are used.

Isotopes and Radioactivity

Radioactivity — the spontaneous release of energy in the form of radiation - results when the nucleus of an element is unstable, in which state it tends to break up. In the process of disintegration it gives off particles of high energy (alpha and beta particles) and, in some cases, electromagnetic rays (gamma rays). Only a few elements which occur in nature are naturally radioactive; uranium and radium are familiar examples of these. There is also a much greater number of radioactive elements and isotopes (elements chemically identical to other elements but with different atomic weights) which have been made in accelerators and reactors. Some 900 radioisotopes of the usually stable elements have now been produced artificially, and their quantity production in reactors has made them readily and inexpensively available.

Each radioisotope or radioelement disintegrates, or gives off radiation, at an individual rate, eventually transforming itself over a period of time (which varies with the material) into a stable, or non-radioactive, form of matter. The period in which this takes place is called the half-life of the material. Radium, for instance, has a half-life of 1622 years; a given amount

of radium will be only half as active 1622 years from now as it is today; and in another 1622 years only one quarter of the original activity will remain. The half-life is an important factor in evaluating the radioactivity of a material and consequently in determining the requirements for handling it. The shorter the half-life, the more highly radioactive the material.

The hazard involved in handling radioactive substances is due to the ionizing effect of their radiation—alpha, beta and/or gamma rays—on living tissue; if taken into the body through nose or mouth or through a cut or abrasion, they can kill some body cells. The specific damage varies with the particular material which is the source of radiation since each has different properties for producing deleterious effects. Some are bone-seekers, some are specific area or organ seekers, some affect the blood cells, and so on.

Working with these various kinds of emissions is hazardous, not only because they can harm living tissue both externally and internally, but because equipment and buildings can be contaminated invisibly with their radioactivity and this contamination can in turn harm living things. To protect against this radiation, distance and certain kinds of materials are effective. Materials, varying in thickness and in type with the radiation source, are therefore the answer to providing safe working conditions. The choice of material







Dilute, Disperse, Decontaminate. In "DDD" labs control of radioactivity hazards includes use of protective clothing (top right) particularly in some phases of work, like decontamination; continual monitoring (top left); permanent shielding walls of lead or concrete, heavy steel doors; contaminated-to-clean-area flow for personnel in certain work (see diagrammatic plan, right). Small "hot" cell (below) has lead brick shielding wall fixed lead glass windows, manipulators. Operator, outside, is protected as any "spill" would be in cell. Radioactive waste is diluted, then dispersed

and of necessary thickness for an experiment is made by the health physicist, not by the architects, but it is the architect who must provide the proper structural base for its support and the necessary amount of space to accommodate it.

From Philosophy to Building Plan

More than in most building types, it is the philosophy of operating procedures, not the physical requirements themselves, that determines the design of a nuclear building, and this is particularly true of the nuclear laboratory. The program of physical requirements follows, and is thoroughly conditioned by, the underlying concept of the handling of radioactive materials. In the few years in which laboratories have been built specifically for research in radioactivity, the same set of conditions has engendered the development of two quite different philosophies of laboratory operation and, consequently, of two types of laboratory buildings.

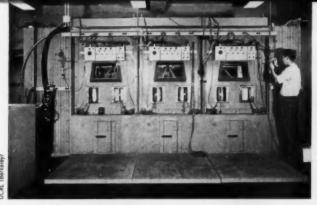
The first of these starts with the premise that since, at low and intermediate levels of activity, radioactive materials are used in open hoods with only local shielding, extensive — and expensive — decontamination is inevitable. Known as the "dilute, disperse and decontaminate" (or DDD) philosophy, this theory of laboratory operation grew out of traditional operation practices in conventional laboratories. In the early days

of work with radioactivity, when little was known of the phenomenon itself and less of its effects, this work was done in existing laboratories with ordinary equipment and only such precautions to provide protection against radiation as tongs to put distance between operator and radiation source, local shielding in open hoods, and increased flow of air to carry off radioactive particles.

Under such conditions contamination, even in the most carefully run laboratory, was a constant possibility. Consequently an elaborate system of precautions and of techniques was gradually developed, based on the continuing use of known operating procedures. Tongs became remote control manipulators and sensitive "master-slave" controls for handling laboratory equipment; experiments involving high levels of radioactivity were set up behind massive, permanently placed concrete or lead shielding walls which enclosed largevolume "cells" or "caves" and required floors designed for unusually heavy loads, and foundations and footings designed to take them. Hood design remained about the same, but increased knowledge developed better filters and ventilating equipment providing a greater volume of air for more efficient exhaust.

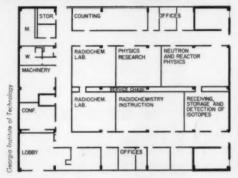
"Dilute, Disperse, Decontaminate"

From these beginnings the "DDD" philosophy evolved,





. M. Isotope Labo





Concentrate, Confine. "CC" design approach isolates radioactivity, confining it to mobile, pressurized, ventilated box which is true lab. Manipulators, rubber gloves, protect operator. If spills occur, contamination is in box only. Lead shields, fitted to box, protect in high level work. In kilocurie work, box is moved behind demountable 6-in. lead brick "cave" wall (top left). Control through total enclosure permits flexible use of space and open, simple plan and construction (Georgia Tech Radioisolopes Laboratory, Atlanta, Ga. John W. Cherry, arch.)

and through it the great laboratories at AEC and AEC-sponsored establishments. Usually located in a remote part of the country, to minimize the possibility of any kind of contamination of large centers of population, these institutions have developed certain principles of planning which in themselves tend to provide a measure of protection. In site planning and in building plan, the general principle is to progress from "cold" to "hot" (high level radioactivity)* area, passing through intermediate areas en route.

This greatly simplifies exclusion from dangerous areas of all but those persons most directly concerned with those areas and fully familiar with the necessary conditions of operation in them. The same principle governs air flow in a building; the flow is from positive-pressure halls to offices to still lower-pressure laboratories.

Between the extremes of "cold" and "hot" areas

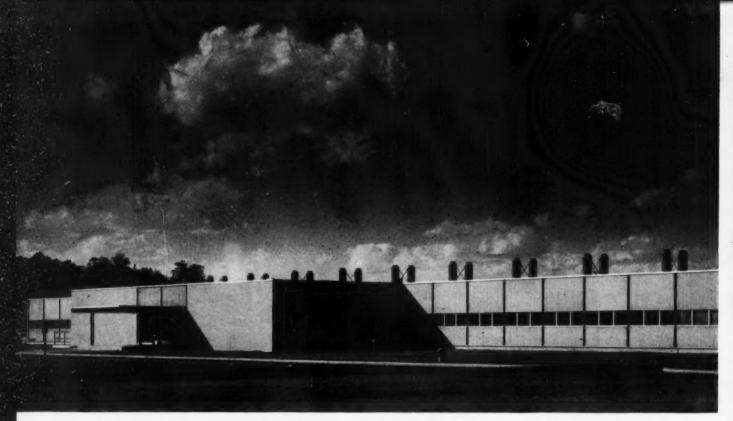
are the intermediate areas where work with low-level

The "counting room," where radiation counts are recorded with extremely sensitive instruments, is in a special category as far as location is concerned. Since radioactivity from sources other than that which is being counted can affect the readings of these instruments, this room has to be located away from external radiation and usually the room itself has walls which

⁽microcurie † or less) and "semi-hot" (millicurie level) is done, usually in laboratories of conventional type but with increased air flow to hoods, particularly in the semi-hot laboratories. Because of the higher level of activity in these, filtering must be more precise, shielding of denser materials and of greater thickness (two feet of concrete or equivalent). Even with the large volume of air (600 to 2200 cfm, depending on the radioactivity of the material in use) which is necessary in these hoods to prevent any possible blow-back of contaminated particles, further precautions, such as restrictions against smoking, eating and even powdering the face or renewing lipstick, have to be enforced as protection against inhaling or ingesting radiation. Considerable care is required to prevent "spills" of radioactive materials on equipment, benches, walls and floor, and continual monitoring of areas by health physicists is essential to maintain safe operating conditions.

Actually, the definition of low, intermediate and high levels of radioactivity varies with each laboratory. Scientifically, the basis for various interpretations of these terms is the radioactivity of the material involved. Its particular properties, half life, biological effect and the quantity to be used are the determining factors for its qualification at one of these levels. As knowledge of the properties of each radioisotope has increased, and as techniques for handling them have developed, the range of each level has been extended.

[†] The curie (C) is a measure of the rate of particle emission. It is the number — 37 billion — of disintegrations per second from one gram of radium. The roentgen (R) is a unit for measuring the quantity of X-or gamma rays. The roentgen equivalent physical (rep) is a measure of the radiation dose in terms of absorption in tissue. The roentgen equivalent man (rem) is a measure of biological effect in terms of the particular properties of a radioactive material.



General Motors' Isotope Laboratory at Technical Center, Warren, Mich., designed on "CC" plan is example of industry's growing interest in research for new applications of radioisotopes. Plan is based on "contamination gradient", with "cold" areas at front, all radioactive labs at rear under negative pressure; "hottest" rooms — decontamination and source lab — are at each end. Each lab has its own exhaust system; each fan has maximum rate of 1400 cfm. Exterior walls are prefabricated concrete panels hung on steel frame. Argonaut Realty Co., designers

function as shielding to exclude outside radiation and so prevent "technical contamination".

"Hot" areas are usually located below grade or in a hillside, wherever possible, to take advantage of the natural shielding afforded by earth. The "caves" or "cells" in these hot areas are of special design and provide a complete enclosure with walls of concrete, three feet thick (or more, depending on the degree of radioactivity involved and the work to be done), or its equivalent in lead. The operator, standing outside, uses remote-control manipulators ("master-slaves") to handle equipment inside the cell; dense lead glass windows, mirrors, periscopes and other optical devices let him see what goes on inside. In some cases radioactive sources are brought into the cells in heavy lead shipping containers; in other cases these are moved by remote control to the cave through a channel filled with water deep enough (depth depends on quantity and material) to act as a shield.

After certain experiments are completed, a highly radioactive cell has to be decontaminated before another experiment can be performed in it. Sometimes the degree of toxicity is such that the cell has to be allowed to "cool" before decontamination can take place, an inconvenient and expensive, if unavoidably necessary, loss of operating time.

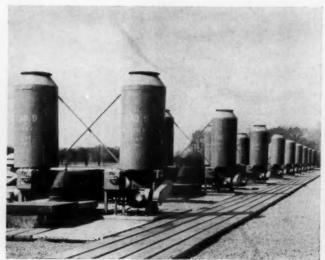
Tools and equipment too must be decontami-

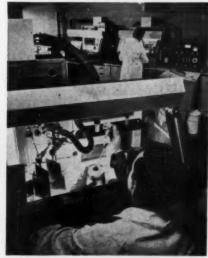
nated. They are disassembled, scrubbed, cleaned and stored until "cool" enough for reuse. Since the concentration of radioactivity from this process is liable to be fairly heavy, this department is located either in the building's "hot" area or in an entirely separate area.

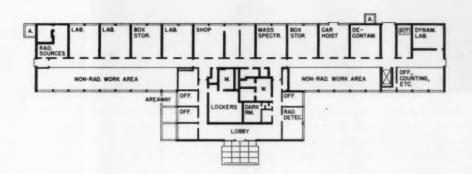
Protective clothing is worn during work. In low-level work, this consists of a laboratory coat over regular clothing; in higher level work, special clothes, head and shoe covers and, in certain areas for certain kinds of work, a clean-air mask, are required. The worker must leave his contaminated clothing in a "contaminated" locker area, take a shower, dress in his regular clothing in a "clean" locker room, and leave the building without returning to the contaminated area. Special facilities for laundering contaminated clothing are provided and the wash water from them carefully monitored and diluted (and sometimes chemically treated) before discharge to sewers.

Contaminated water from laundering the protective clothing needed in "DDD" laboratories — which in a large laboratory can be considerable — becomes, therefore, a problem for serious consideration. Although the volume of radioactive wastes from a laboratory is by no means as large as that from a reactor plant such as Hanford, it is nevertheless not a negligible factor, and should be considered in the overall plan.









Since everything that becomes contaminated must be disposed of by special means, the greater the volume of radioactive waste, either liquid or solid, the more complex and extensive the disposal problem.

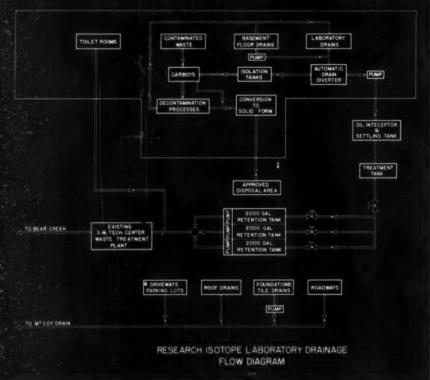
The Box is the Laboratory

In the conventional research building, the laboratory is a whole room. But in many of the new radioactive research buildings now being built in many parts of the country, the true laboratory is a box, and the room in which it is placed may contain half a dozen such "laboratories." In essence, this is the other philosophy of laboratory operation in current — and increasing — use today. Although developed, like the "DDD" philosophy, from methods used in conventional laboratories, the "concentrate and confine" (CC) philosophy is a new concept of laboratory procedures. Its application results in a less complex kind of building in which the use of its space more nearly approaches the scientist's ideal of complete flexibility than has previously been possible.

Its premise is that total control can be accomplished by total enclosure of the radioactive material used in an experiment, and that contamination can be limited to the area of this enclosure. Since the area of enclosure is that of a box (its dimensions vary with the need of the specific experiment), de-contamination is greatly simplified. Even more important, the total control over radiation provides a means of assuring personnel protection and of minimizing contamination of equipment and building.

This concept of control by concentration and confinement, developed by Nelson B. Garden, chief, Health Chemistry, University of California Radiation Laboratory at Berkeley, permeates the entire operation of the laboratories which use it. The heart of this philosophy is a transportable plywood, plastic or metal box with a sloping glass front, equipped with remote control manipulators (or gloves for lower level work), filter, exhaust duct, and waste disposal receptacle, already encased in concrete to facilitate its shipment to a designated "burial" ground.

By confining the radioactivity entirely to the box, the chance of a "spill" on laboratory bench, floor or walls is minimized; by keeping the box under negative pressure and placing the filter at the box, radioactive dust and particles are stopped at their source. By exhausting (through a flexible 4-in. duct in the negatively pressurized work area, then to exhausters on the roof) a two or three foot cube, the amount (5–12 cfm for practically any laboratory operation) of air flow is reduced to about a hundredth of the amount of air flow required for safe work in a hood. This means not only a much less expensive operation but greater environ-





The state of the state of

Waste disposal is serious problem since anything contaminated must be disposed of specially. In "DDD" labs waste is diluted before discharge to sewers or burial; in "CC" labs most radioactive waste is collected in carboys at boxes. After chemical treatment, sometimes necessary, waste is stored in holding tanks (right) until assayed and, if activity is negligible, released to sewer. Waste disposal flow chart for G-M Isotope Lab shows typical "CC" system with systems for lab and for normal building water; automatic drain diverter detects radioactivity, traps it for special disposal

mental safety since the volume of air exhausted to the outside is very much smaller.

The "Berkeley box" (so called because it was developed at the University of California Radiation Laboratory) has no real limit in size or, apparently, in use. Plants have been raised in radioactive soil in a box; animals, as small as rats and as large as cows, have been housed in boxes and their radiation-laden bones and tissue have been cremated in an electric furnace in a connecting box; milling machines are used in large boxes; all usual chemical processes are done regularly in boxes. By fitting the ordinary box with a lead shielding equipped with view window and manipulators - it is then called a "junior cave" - the maximum safe level of radioactivity can be appreciably raised. If the box is placed behind a 6 in. lead "cave" wall, this level can be increased to the kilocurie range. With additional inches of lead shielding, the level at which safe work may be done with radioactive material can be raised still further.

The mobility of the boxes makes possible not only versatility in use of the laboratories, but permits a more rapid turnover in laboratory space since there is no "down" time. At the end of an experiment, the box is moved to the decontamination room where it is either cleaned up (in a decontamination box) and put back into service or it is allowed to "cool" until it can

be cleaned, or if too "hot," encased in concrete for disposal.

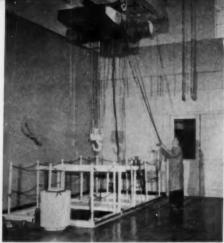
Design for Flexibility and Good Housekeeping

If control of radioactivity is the determinant of the design approach, flexibility is the basis for the plan, and ease of maintenance — the scientist calls it "good housekeeping" — is the criterion for selection of materials and equipment. None of these factors can be considered alone.

Modular planning and equipment make for flexibility and simplify replacement, inspection and monitoring. Demountable partitions of metal, concrete block or, in "CC" laboratories, of wood or glass, make interior changes easy. Assembly of utility lines in a service chase facilitates expansion horizontally and vertically. Non-porous materials do not absorb radioactivity and unbroken surfaces have no cracks through which it can seep. Accessible piping and ducts simplify monitoring and recessed light fixtures gather neither dust nor radioactivity. Filtered air at the intake puts less load on filters at the exhausts.

The evidence of the past is that new materials, improved nuclear research tools and refinement of techniques will make it possible for scientists to do in the next five years what is impossible today. Architecture, as well as science, faces a challenge in that prediction.

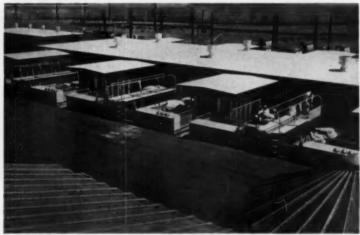




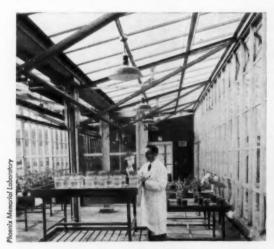
Bulk storage of radioactive material requires controlled conditions to prevent personnel and technical contamination. Heavy shielding—lead, concrete, or water—and isolated location in building are essential. Pool at Battelle Memorial Institute (right) stores lead container under 14 ft of water; crane is needed to handle casks. Pit, before grade, at G-M Lab has 3-ft concrete walls (left)

SPECIFIC LABORATORY NEEDS FOR SPECIAL RESEARCH

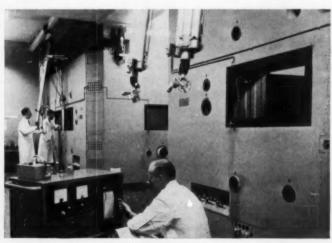




Biological research labs have been built on both "DDD" and "CC" concepts of lab use. Animal housing facilities are sometimes provided in lab building proper, sometimes in separate pens as at Hanford (right). Box labs of special design (left) provide completely controlled environment and mobility of unit for more flexible use of space; care of animal and experiment conditions are simplified



Greenhouse is sometimes part of agricultural research labs. Box labs are also used for controlled environment experiments. Plant food utilization, genetics are studied



These hot cells for large-scale high level work have 3-ft baryles concrete walls with a 3-in. steel shell, thick lead glass windows, "master-slave" manipulators for remote control of processes in cell



LABORATORY FOR RADIOACTIVE RESEARCH

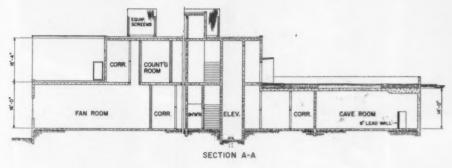
Radiochemistry Building, University of California Radiation Laboratory,* Berkeley

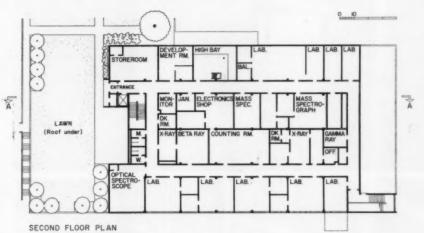
As the last building to come from the office of Eric Mendelsohn and his associate Michael A. Gallis, architectural interest in this building is implicit. As the first building in which the concepts of the "concentrate and confine" philosophy of nuclear laboratory techniques have been fully translated in architectural terms, it has a special significance. Eric Mendelsohn, Architect; Michael A. Gallis, Architect; G. M. Simonson, Mechanical and Electrical Engineer; Isadore Thompson, Structural Engineer.

There were four main design considerations: progressive isolation of areas where work would be done with penetrating radiation; circulation within the building and access from outside for trucking of radioactive materials; space for mobility — important because of the

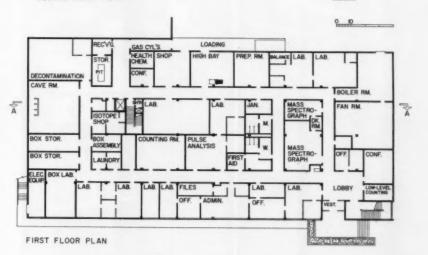
portability of the Berkeley boxes, heart of the "concentrate and confine" philosophy; structural capacity for heavy floor loads (especially shielding). Equally important was selection of materials for corrosion resistance, decontamination, ease of replacement and accessibility. The building's "cold" area is near the entrance; besides offices, library, rest rooms, etc., there is a low level counting room in this area because of the minimum amount of technical "contamination" (interference with instruments from radioactivity). The "hot" area is at the rear, under ground for maximum shielding effect. The two halls on the first floor were needed because of security regulations originally in effect. Demountable partitions will facilitate remodeling this space as needed. Because of its flexible space, open design and simple construction this building has become the prototype for a growing number of research buildings for industry and private institutions.

^{*} Operated under contract with U.S. Atomic Energy Commission



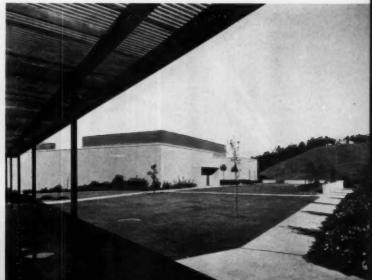


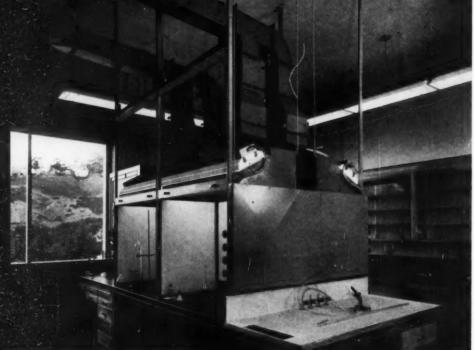
From stair tower view is over San Francisco Bay to Golden Gate and to Marin County. All administrative offices are on north side of building; other sides of building have no windows. Second floor level opens onto grassy terrace which covers "cave" room and leads to cafeteria building (below, right)





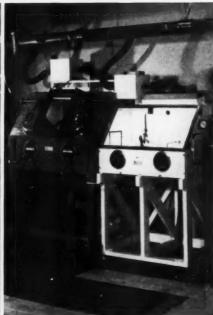


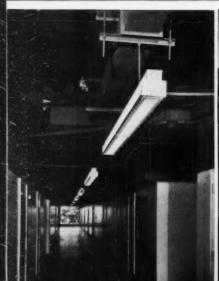








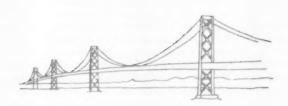








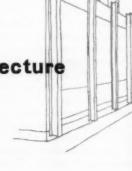
1. All hoods are demountable, hung from ceiling, so box labs can be substituted, or used in room beside hooded bench. Each lab has shower over door way for emergency use. 2. Piped services are racked along wall, between benches, or suspended from ceiling, are easily accessible since modular lab furniture is not built-in. 3. "Berkeley boxes": for low-level work, box on right is of metal mounted on wood dolly; "junior cave" (left) is mobile lead shield. Two-inch leads connect boxes with non-corrosive 4-in. manifold duct in negative-pressure labs. 4. All ducts, piping, etc. run in open corridor ceiling for accessible inspection, maintenance. 5. Corrugated screens mask jagged roof outline of exhausts and fans - individual systems for each lab. 6. Hillside protects "cave" on three sides, extra thick concrete ceiling and earth terrace above. Floor is designed to carry 600 psf uniform loading for movable lead shielding wall





The Structural Engineer and Architecture

By FELIX J. SAMUELY, Consulting Engineer, London, England











The Structural Engineer and Architecture

By FELIX J. SAMUELY, Consulting Engineer, London, England



The philosophy of structural engineering may be said to encompass three different themes.

 Structural engineering as such, with absolute ideals which the structural engineer should try to live up to.

(2) Structural engineering as part of the building process. It may play an important part, e.g. in a bridge or long-span roof, and sometimes less important; it is particularly unimportant in a one-or two-story house.

(3) A more personal theme, dealing with the position of the structural engineer in the building trade and his collaboration with other members of the industry, primarily with architects.

These three themes are not of equal importance. I believe that the ideals of structural engineering as such can be explained in a few words, and that they are not all "absolute." A structural engineer should provide that construction which best fits a given building, but, alas, there are so many considerations to be taken into account that we often come right away to structural engineering as part of the building process.

Long span bridges are the only type of construction where other considerations are so subordinated to the structure that it is almost correct to say that what is structurally best is best for the whole bridge. This is what should distinguish the bridge engineer from the one who deals with other structures, be they foundations, dams, or the structure for a big hall. The bridge engineer can start with an absolute picture of loads and deduce both shape and construction from it; the building engineer should look around all the time and make sure that what he produces is right in other respects. I intentionally say "should," because this is probably one of the greatest failings of a number of structural engineers - that they behave like bridge builders even when dealing with multi-story buildings; that they consider their structure to be absolute; that they tend to recommend the cheapest structure although this may lead to a more expensive building, and even if this is not the case, make the building as such uneconomical or unsightly.

I would certainly not agree that there is ever a framework, or even a material, that is absolutely the best. We may

sometimes deceive ourselves by looking at one consideration only, e.g. economy, and call the cheapest possible structure (under certain circumstances) the best. But this cheapest structure — if indeed such a thing exists - may be lacking in many amenities; it may result in insufficient, or at least inconvenient, headroom, the planning layout may become awkward, or the appearance may suffer badly. Due to faulty education - and indeed this is an international weakness engineers may not always take these things very seriously, but they can all be easily converted into values either of personal or national importance, final values often lost for the sake of a much smaller immediate structural gain. Some aspects may affect only the client or people in the building, but others can affect everybody. For instance, an ugly elevation may bother many more people than those who use the building.

The prime criterion for a structure as such is that there should be no waste. As long as an advantage is gained by spending more initially — in time, costs, appearance, amenities — this extra cost is worth consideration; if no such advantage is discernible, there is no justification for more than the minimum expenditure — the remainder is just "money poured down the drain."

The difficulty is, however, that while the structural engineer is usually the guardian of economy in structure, others, especially the architect, have other problems in mind, particularly amenities and appearance. They will often find it difficult to analyze these in terms of money. The structural engineer, being reared on economy, speaks an entirely different language. Only understanding collaboration can bring forth the compromise which is important, and each person involved has to learn the other's language.

I have come to the conclusion that for the majority of structural engineers, or all those who have to compromise with other interests, the first theme is a very dangerous one and "absolute" ideas should be avoided altogether.

Let us then consider structural engineering as seen from the point of view of the building as a whole. The structure has obviously first and foremost the function of making the building stand

up. This is of less consequence for a small house than for a high building, a wide hall, or a bridge. Again, a structure is sometimes almost self-sufficient, as in the case of a bridge; or sometimes, for instance in multi-story buildings, there are so many other considerations to which the structure is to be fitted that they may alter the conception of the structure altogether.

The structure may thus be considered to be of varying importance in different buildings, and we see later on that this fact may have a great influence on architectural treatment. At this juncture I would say that, in my personal opinion, a good engineer must not only understand the structure and its possibilities, but also the mutual effect of structure and other building elements. These include primarily the function of the building, which he can often enhance by suitable positioning of columns, correct arrangement or omission of beams, etc.; and the appearance of the building. inside and out, which of course is dictated by the architect, but the principles of which should be understood by the engineer, again in order that he may contribute to it. There are the services which he can try to accommodate within the confines of the structure in order not to waste more space than necessary, and indeed to save cost. There are heat and sound insulations. And an understanding of acoustics and illumination, as well as general building construction, will not come amiss to the engineer.

There is no point in going into greater detail on all these items, which have to be solved individually, but it is rather important to consider the interaction of structure and architectural expression, and if I may be allowed to digress for a moment, I would like to explain my attitude on this.

The question to what extent structure should be expressed architecturally has exercised the minds of architects through many centuries, and if in early medieval thinking a clear solution to the problem cannot be distinguished, even then an intuitive approach at least must have existed, which can be deduced from the buildings which remain to our times. It does appear, by and large, that it is "economical" (if economy just means the minimum initial outlay of money)

to let the appearance of a building follow structural, or indeed nowadays other practical lines, but it has again and again been pointed out that economy in this sense cannot be the sole arbiter of our lives or else we should still be living in caves. One might generally come to the conclusion that probably the economical trend comes more to the fore in times when we are hard up than when we are able to spend freely. Of course, wealth or poverty may not be expressed only in terms of money. The lack of full availability of materials to build with, or the labor to do so, appears to militate just as much against functional lines as does indeed wealth in terms of purchas-

Our own times appear to be ruled by very contradictory factors. We have at our disposal building methods which even two generations ago were hardly dreamed of, but the demands of an improved standard have grown possibly even more quickly. More money than ever is being spent on each individual, but the life of the majority of people is a constant fight with "need." The influence of these contradictions on architecture can easily be distinguished. There are those architects who take the attitude that they would like to follow structural lines wherever possible, particularly with large and monumental buildings, while others adhere to the opinion that the elevational treatment today can and should be completely dissociated from the structure - hence the rather remarkable fact that the "new brutalist architecture" and the curtain wall can exist at the same time.

The problem that interests the engineer very much in all this is "How does he fit in?" Is he merely the handmaid who carries out the wishes of the architect, or can he add something more than mathematical analysis to the value of the building? He can do several things. He may produce the economy, or he may provide such a construction as gives advantages to the building which can possibly be expressed in dollars in the functioning of the building rather than in the initial outlay, or possibly be of more abstract value.

Often the engineer may be instrumental in developing the architecture. Where the architect is willing to base appearance on structure, it is up to the engineer to develop structures that are capable of expression. There will often be possibilities of which the architect is unaware, and it is up to the engineer to inspire the architect. This

is when collaboration between architect and engineer is most fruitful. The engineer might also, if the architecture is not based on the structure, at least see to it that the structure is based on the architecture.

Let me consider these three points, and particularly enlarge on the last one, in which I have a great personal interest.

I must confess that I am always suspicious when the word "economy" appears on the horizon. I believe indeed that more money is wasted in the name of economy than on anything else in the world. The cost of a structure as such is necessarily a yardstick for economy, but an engineer may make a saving in other ways. He might, for instance, come to the conclusion that it is better to introduce additional columns where the architect has omitted them, or alternatively, he may realize that he does not necessarily improve the building by pressing the architect to reintroduce them.

I have frequently found that an architect, or indeed a client, welcomes being informed how much additional flexibility would cost, so that he can decide whether this expense is worthwhile, a decision that can be made on a scientific basis only with the collaboration of an engineer who has rid himself of the idea that cheapest is necessarily best.

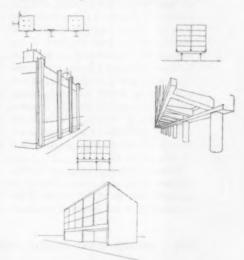
The structural engineer, of course, has not to think only of shapes, strength and economy. Modern structure has to fulfill quite a number of tasks besides these. The question of sound and heat insulation, the possibility of incorporation of services, are important items, the latter particularly coming more and more to the fore. In some instances very thick floors are provided for all the services to be incorporated. This is quite expensive, as it means considerable extra height and weight. Here again, early collaboration between the mechanical engineer, structural engineer and architect can be of very great value, and it is up to the structural engineer particularly to devise a construction that can easily house the services.

Before explaining what I mean by either the engineer supplying the architect with an idea or the engineer following the architect in the design of the structure, I must deviate even further and say a few words about the esthetic value of a structure in general, and the degree of functional expression possible in structure. Where structures are easy, even in relatively harassed times like the early Middle Ages, structure has not found its expression in the elevation

of the building. Such simple houses as are left to us from the 12th century do not base either elevation or inside treatment on the structure, and the fact that many more churches than houses remain to us from this period often misleads us into thinking that all medieval building was functional. Building a church of any magnitude was a structural feat, and to do anything but pure Gothic arches would have overtaxed the builders of that time or have made it impossible to carry out their intentions. We can learn from them for our own time that it is more likely that a structure becomes eminent in architectural treatment if it is in itself an extraordinary problem, while if other than structural considerations are more important it is likely that the structure would not be completely visible, or it may even disappear altogether. If a substantial bridge has anything but structural expression we should consider it universally ugly, but we do not often think of giving structural expression to a one or two-story house.

Now where an architect chooses to base the appearance of a building mainly or entirely on structure, the engineer's position and the possibilities for his contribution are fairly clear. He will have to show the architect several possibilities, and in designing these he will be well advised to relax and forget any mathematics, although it is quite likely that later one or the other of the suggestions will have to be dropped for reasons of practicability. Personally, I have often found that a completely visual approach often leads more quickly to the right shape than any amount of analysis. The more types of construction that can be put forward the better, and if there is a difference in cost this should be pointed out.

There is, however, one thing that the engineer must never forget. It is a common fallacy to think that what is







right necessarily looks right. There are many reasons why this should not be so. In the first instance, every bit of construction is a "structure" on its own, but it will be seen together with other parts of a building, or other buildings. (A staircase may, strictly speaking, require a structure quite different in appearance from the rest of the building.) The most correct construction may look right if that part of the building stood on its own, but may need considerable modification because of its surroundings. Secondly, all the functions of a building (additional to the structural one) may combine to make the obvious structural solution very awkward, or even impossible. The man who has learned to balance all these things is the architect, and if he succeeds in finding a compromise that does not cripple any one of the components he is a good architect. If the engineer had learned to do so he would be an architect, but if he has not learned to do so his task is to make suggestions, and even to defend such suggestions, but not to make the ultimate decision. And he has to accept the ultimate decision of the architect with good grace, because life will be unbearable for him if he does not do so.

However, this does not mean that the engineer must now restrict himself to analysis only. As stated before, if the architecture is not based on structure,

the structure can be made to fit the architecture, and not be just any odd assembly of columns and beams that happens to fit. It is my firm belief that what should be sought under all circumstances is a unity of structure and appearance, a unity of purpose. Often it turns out to be altogether less costly to have a more expensive structure, but at the same time avoiding a false ceiling or similar contrivance. If a flat ceiling is produced because it is required for the use of the room underneath this is reasonable, but if it is there merely to hide away an otherwise ugly structure, I feel very doubtful about the wisdom of the arrangement. It would be better to have a structure that is not so ugly. If the architect does not make a feature of the structure, that is no reason why the structure should not fit into his building esthetically, and conversely, if every engineer were intent to fit his structure to the architecture more architects would be willing to show the structure and make a feature of it, or possibly use the structure for a suitable pattern.

The photos show an example of a recently completed office building in London for the National Dock Labor Board (Architect - Frederick Gibberd). In this case an external framing has been worked out between the architect and engineer, which at the same time provides the architect with the pattern that he requires for the elevation, and gives the engineer sufficient bearing capacity. The structure forming a pattern has thus become suitable to be shown. Compare this with what is usual today, namely, columns at larger centers and a curtain wall hiding them, and we find that:

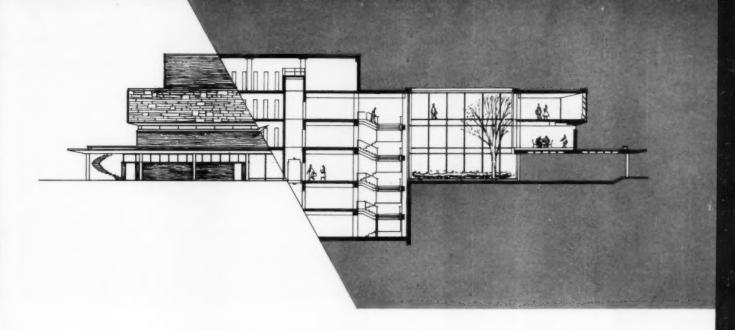
- (a) the structure is slightly more expensive,
- (b) the overall costs are much less,
- (c) the lighting facilities are much better, because the edge beam has a short span and can be lost in the floor thickness,
- (d) the planning is easier, because there are no free-standing columns,
- (e) there is a greater variety of elevational treatment than with a curtain wall.

The above example illustrates particularly how important it is to have proper collaboration between engineer and architect at the design stages of a building. Also I feel that the fact that the finished structure already gives a complete impression of the building as a whole is an asset, and is worth while being repeated.

It may have been noticed that while actually discussing the structural engineer's contribution to the building I had to refer repeatedly to the third of these - the collaboration of engineers and architects. This is not a theme easily discussed in the framework of an article which deals with a more abstract problem. So only a few words may be said, which are by no means exhaustive. Nevertheless it is advantageous to point to the core of a problem which appears to be the same all the world over. Building has become so complex that great specialization has taken place. There are many people (architects, engineers, contractors and suppliers) who become only concerned with their own contribution - sometimes large, sometimes small. They fail to realize that more would be achieved all around if, instead of the "Tower of Babel," everybody were to understand something of what the other man is trying to express. This could be achieved if the authorities that organize education understood the importance of the problem, and if time were spent on telling everybody in the building trade what is really important and why the other man is so often insistent on doing something contrary to our own inclinations.

One heaven-sent opportunity for the collaboration referred to is afforded today by folded slab roofs for large spans. Such folded plate roofs can be very expressive of their functionmuch more than standard roofs in the past - and they are at the same time economical. There is great variety of shapes, not all equally advantageous from a financial point of view, but giving a considerable amount of latitude and often being useful for other reasons, such as arrangement of ventilation, acoustics, etc. Such roof constructions can be in concrete (often precast), they can be latticed, in steelwork or timber. Very often a latticed folded slab construction in any of the above materials carrying a lightweight roof will be found extremely economical.

It has occurred to me that one of the reasons why, during the last century or so, there has been a particularly marked discrepancy between function and appearance, is the fact that construction was pressed into plane conceptions, while of course appearance was always three-dimensional. When, as appears to be the tendency now, construction is also becoming three-dimensional, it will often be easier to find a solution that satisfies both the engineer and the architect.



Air Conditioning for Books and People

By IAN GRAD and ALFRED GREENBERG, Fred S. Dubin Associates, Consulting Engineers

John M. Olin Library, Washington University, St. Louis. Murphy and Mackey, Architects; Neal J. Campbell, Structural Engineer; Fred S. Dubin Associates, Inc., Mechanical Engineers

LIBRARIES HAVE A NUMBER of air conditioning problems not often encountered in other building types:

(1) While the ratio of people to floor area in libraries with open stacks is quite low, still comparatively large quantities of air must be circulated to keep the books "conditioned" as well as the people.

(2) Cooling load due to heat given off by people will vary widely. For example, conference and seminar rooms may have an occupancy load of 10 sq ft per person, while the stack area will average 80 to 100 sq ft per person. The areas with differing occupancies thus have to be carefully zoned.

(3) Clean air is not only desirable, but necessary so that books will not become soiled.

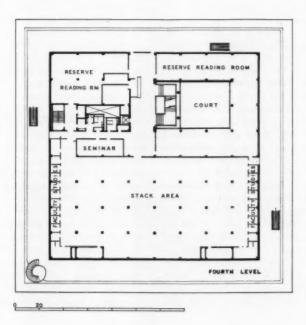
(4) The sound level of the air conditioning system must be low enough to prevent distraction, but cannot be so low that normal sounds will seem obtrusive. (It's well known that the air conditioning systems in some libraries have been so quiet that people complained the building was "noisy.")

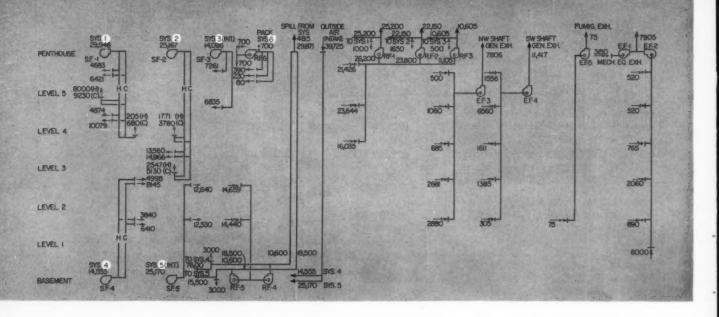
(5) A university library, such as described in this article, often operates

16 hours a day six days a week; somewhat less on Sunday. Thus ventilation equipment may have to run as much as 5000 hours per year. Such constant usage means that heavy-duty, long-life equipment must be used.

A search of both domestic and foreign

literature disclosed that there is very little information available on the air conditioning criteria for modern libraries. However, the comfort criteria for people engaged in a variety of activities have been pretty well established. To determine what would be the best at-





mospheric conditions for books we conferred with paper manufacturers, and, oddly enough were told that optimum conditions (76 degrees and 50 per cent relative humidity) for preserving paper were practically the same as those for people - certainly a fortunate coincidence. Since stack areas are normally in the interior of the library, the cooling load is mainly due to lights, and less air, at a lower temperature differential than is required for other areas, is needed. In this case, a minimum air movement of six air changes per hour was used to maintain uniform temperature conditions.

Temperature limits for the Olin library are 72 F (winter) and 78 F (summer). While 76 F is optimum for both people and books, to maintain this temperature under worst summer conditions would have required an increase of over 12 per cent in the refrigeration tonnage. In the winter it is planned to maintain exterior spaces at 72 F, so the stack areas will be 72 F also to have uniformity throughout. The humidity is controlled at 50 per cent with a permissible variation of plus or minus 5 per cent. Stack areas are conditioned 24 hours a day. The exterior areas are not normally conditioned at night. However, the humidity in areas fringing on the stacks is not allowed to go below 50 per cent. Due to the heat storage capacity of the masonry walls and the books in the library, it is anticipated that conditions late at night will not vary much from occupancy design conditions. Where there is lots of glass, such as the ground floor and the court, low limit controls will not let the temperature drop below 55 F at night.

The air conditioning system is designed to handle the most extreme conditions. Due to the uncertainties involved in thermal storage, undoubtedly field adjustments will be necessary to establish the best 24-hr control setup.

Research shows that from a practical and economic point of view an overall ambient sound level with the air handling systems running should be no greater than 40 db. A level of 35 db is considered by many the low limit since it is felt that below this, stray noises may be accentuated due to the low background noise level. In addition, the added cost of equipment and acoustical treatment would excessively increase the cost of the job.

All equipment such as fans, pumps and refrigeration machines are set on proper vibration eliminating devices to minimize noise transmission from this source. The discharge ductwork of all double duct supply fans is lined with acoustic material to produce a maximum duct noise level of 52-55 db. Where necessary, the discharge end of all turbulators and mixing boxes is acoustically lined to produce a maximum sound level in the ducts of 37 db. This, when added to a 37 db room ambient with no air system being operated, will produce a 40 db level when the air systems are turned on.

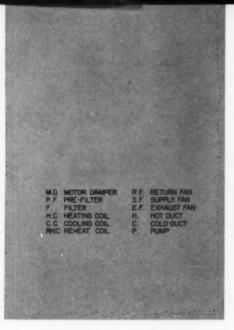
One of the biggest maintenance problems in a library is keeping the books clean. All too often, even in air conditioned libraries, book stacks are covered with layers of dust due to the inadequacy of the air filtering system and/or the lack of proper maintenance. About 80 per cent filter efficiency is considered adequate from the standpoints of cleanliness and economy. However, to increase the life of the 80 per cent filters used for this application, pre-filters having 35 per cent efficiency will also be installed.

The Olin Library is a five-story structure with two stories below grade. The 1st, 2nd, 4th and 5th levels have interior open stack areas. In general, the perimeter of the building contains the special purpose rooms such as conference rooms, faculty studies, reading areas etc. Level 3 is on campus level and consists of the administrative offices and reading areas. Several architectural design features were incorporated to eliminate almost all of the sun load. These include (1) a promenade deck, (2) structural louvers, and (3) overhang above strip windows. This served the dual purpose of reducing the refrigeration load and eliminating the need for zoning of the air conditioning systems according to building orientation as well as function

In addition evaporative spray piping will be installed on the roof to reduce air conditioning costs by about \$8,000.

The two lower level and the two upper level stack areas each have their own conventional (single duct) air handling system including pan humidifier sections for humidity control. All other areas will be served by three modified dual duct air handling systems. Large areas which lend themselves to zone control will be handled by means of turbulator boxes which mix the hot and cold air proportionately for the right temperature.

An interesting application of zone control is being applied to the rows of

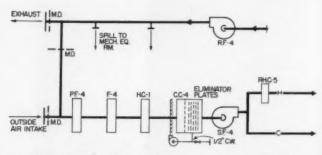


faculty study rooms. Each row, consisting of from nine to 22 rooms will be handled by one turbulator box. The lights in each row will be ganged on a single switch so they are all on or off. For the floors above grade this will present a desirable uniform architectural appearance outside the building. Since these rooms will be occupied by only one person, most of the time, the major portion of the variable load will be due to outside air conditions. Therefore, an outside master thermostat can be tied into a submaster to re-set a discharge duct thermostat which will proportion the hot and cold air quantities as required. For rows of rooms below grade, only the preset discharge ductstat will be required. Here the human heat load is the only variable and can be compensated for by the setting of the discharge ductstat. The savings due to elimination of individual room control will offset increased lighting costs for at least 30 years.

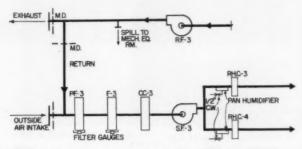
All private offices, conference rooms, seminars, etc. will have individual room controls due to the nature of the periods, types and levels of occupancy.

All zone and individual mixing boxes will have thermostatic and static pressure controls. The latter, though adding slightly to the cost of the mixing boxes, will give the systems more stable operating characteristics.

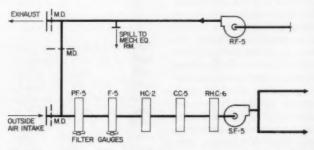
The dual-duct systems are run at as low a velocity as is consistent with the space available for ductwork. These systems are in the medium velocity (4000 fpm is tops), high pressure range, and although initial ductwork cost is increased, the power economy effected



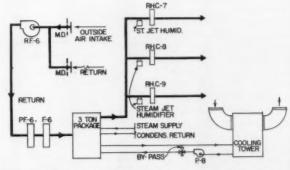
Systems 1, 2, 4*. Dual duct supply feeds exterior spaces which have special rooms adjacent to one another with various occupancies, calling for separately controlled conditions. Hot and cold air is mixed to satisfy room or zone thermostats. System 4*, only, has a preheat coil after filters because larger outside air requirement would make outside and return air mixture too low otherwise, and perhaps cause freezing of water coils



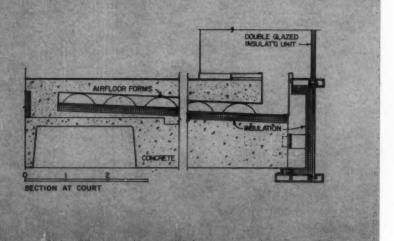
System 3. A single-duct system serves the stacks on levels 4 and 5. Pan humidifiers suit the purpose for a low-density area such as stacks. Reheat coils are employed on level 5 to compensate for roof heat loss, and on level 4 to temper supply air in summer which has to be quite cool for level 5 because of heat gain through the roof (spray keeps it at 90 F)



System 5. This is an interior single-duct system supplying the below-grade stack areas. As with system 4, which is dual-duct for below-grade areas, a preheat coil is needed directly after the filters because of the larger outside air requirement on the lower levels



System 6 (Rare Books). Valuable and old books, documents must be kept under close temperature and humidity control 24 hr a day. A 3-ton package unit conditions this space in the Olin library. Moisture can be raised by means of steam jet humidifiers which are appropriate for this small, integrated system. A separate cooling tower is used



An unusual air distribution detail is the use of special metal forms to provide air channels while still allowing sufficient structural strength in the slab. Reason was that waffle slab had no space to run a conventional duct. Continuous air along glass at court counteracts drafts

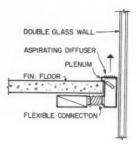
by reducing the system static pressures due to the larger ducts justifies this procedure. In addition, it reduces the possibility of objectionable duct noise.

Ductwork is above hung ceilings where they occur. Since space conditions made it impossible to run a complete system of return ductwork, the hung ceiling is used as a return air plenum. Every effort was made to locate the return air registers for proper air circulation. This is complicated by the fact that registers nearer the shaft will tend to pull more air than those farther away. Therefore registers were placed equidistant from the return air shaft ducts which were run out 8-15 ft from the shaft wall and acoustically lined. Return air plenums at return air fan inlets were also acoustically lined to prevent noise transmission down the shaft.

Separate and complete systems of exhaust air were designed for areas or rooms that might have heavy smoking, toilets, photolabs., etc., All such rooms have 100 per cent exhaust.

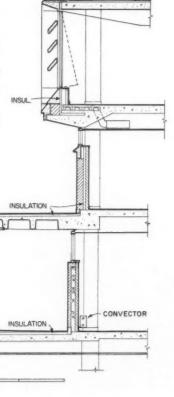
A portion of the top floor is set aside for a rare book area which includes a vault, exhibit and reading room and rare book stack area. A separate 3-ton, direct expansion air conditioning system is used to provide 24 hour service.

The refrigeration equipment is located at the lowest level and consists of a closed cycle absorption system operating on 5 psig waste steam from turbines in the university power plant. At some future date it will be possible to provide the unit with 12 psig steam and thus have an additional 100 tons of air conditioning capacity for some other building in the area.



Sun control features — horizontal louvers, overhang and strip windows, and promenade deck — simplified air conditioning control. Areas did not have to be zoned for orientation as well as occupancy. The small detail shows how air is admitted where there is floor-to-ceiling glass. This occurs on some sides of court and on ground floor. Details may vary from place to place depending on construction

SECTION AT EXTERIOR WALL





NATIVE MATERIALS, MODERN METHODS BUILD HOMES FOR KOREA

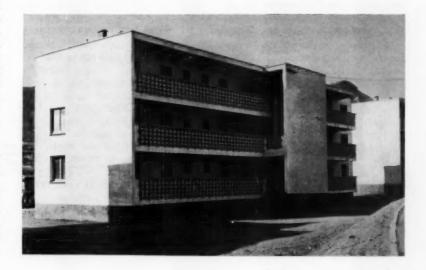
A MODERN HOUSING DEVELOPMENT nestling on a hillside near Independence Gate in Seoul, Korea, served as a full-scale classroom in which Korean construction men learned at first hand how, with modern building methods, the sparse materials native to their country could be used to provide much-needed large scale housing at low cost. Built under the Homes For Korea program, the project was designed to make efficient use of available materials and manpower without, as technical director Carl G. Lans put it "revolutionizing the Korean mode of living."

Because Korea's high density population makes it necessary to house the greatest possible number of families in the least possible area, multi-story units were developed for the project. The four three-story apartment houses and 52 two-story row houses in the model village house a total of 100 families, demonstrating graphically how maximum land usage can be achieved without sacrificing light, ventilation, or open areas for play and landscaping.

Both types of units are constructed of concrete block, with floors and ceilings spanned by prestressed concrete beams. The decision to use concrete, even though cement had to be imported, was arrived at primarily through a process of elimination, beginning with lumber which is unavailable in the Republic. Practically the only building material Korea possesses in large quantity is clay—and, while the country has numerous brick plants, these are operated only on a small scale and there are no facilities at all for the manufacture of clay tile. So it was decided to import a small, inexpensive sintering hearth with which the clay could be converted to a clinker, that, when ground, would provide a lightweight aggregate suitable for the on-site manufacture of concrete block. In addition to being fireproof, the completed blocks proved to have a greater

insulating value than standard blocks, a factor of particular importance in Korea's cold climate. For the exterior walls, two wythes of 4 in. block with an air space between are used; the interior partitions are formed of single rows of bollow block.

The concrete beams used for the roof and floor construction were also manufactured on the site, by a prestressing method which saved up to 90% of the steel required for ordinary concrete beams. Developed by the Pacadar Corporation of Puerto Rico, the method







Centuries-old Ondol system uses hot gases from kitchen stove (above left) to heat floors in present-day dwellings.

employs a 600 ft long casting bed with high-strength wires stretched over its entire length. After the wires have been pretensioned to 85 per cent of their ultimate strength, the concrete is vibrated into steel forms of various lengths and allowed to set before being placed in compression by the releasing of the tension on the steel wires. The resulting beams, which weigh about 20 lbs per linear foot, can be easily handled, and have the added advantage of allowing construction work to proceed even in winter's freezing temperatures. Cast in an inverted T-shape, the beams were laid up 3 ft, 3 in. on center to form the skeleton framing. Precast concrete filler blocks shaped to rest on the beam flanges provide a flat slab for floors and ceilings.

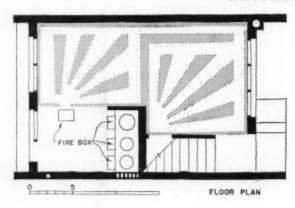
Although the new housing units have many features - plumbing, for example that are relatively unfamiliar to their inhabitants, life within them goes on in the time-honored way. The Koreans, who have very little furniture, continue to "live on the floor," eating their meals seated on pillows around low tables, and sleeping on bed-rolls on the floor. And the same radiant floor heating system that for centuries has made this practice comfortable has been adapted to the new homes. In the row houses the traditional Ondol system is retained intact, with combustion gases from the kitchen stove flowing through a labyrinth of chambers under the floor slab to a chimney at the far end of the room, heating the floor en route. Grills are used in the second floor, with supplementary

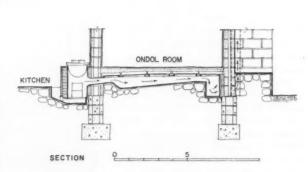
space heaters in the upstairs rooms. In the apartment houses, this system has been modified to use the hollow spaces in the floor construction as ducts for a warm air heating system. Heated air forced through these cells is convected through floor registers near the outside walls, and circulated over the room to the return.

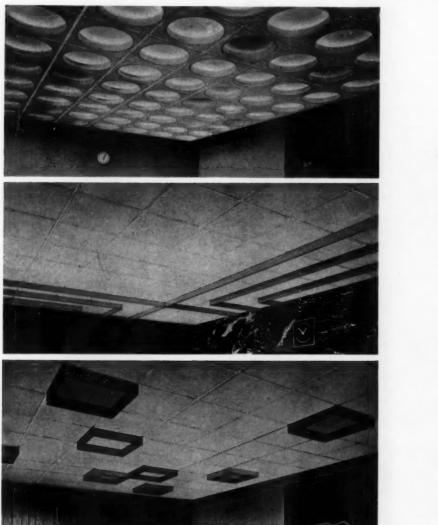
Designed by a team of American and Korean architects, the project was built by Korean labor under the supervision of architect Carl G. Lans, technical director of the Homes For Korea Program. Sponsors include the American-Korean Foundation, the National Association of Home Builders, Webb & Knapp, Inc., New York, N. Y., and several building materials manufacturers.

(More Roundup on page 248)

ONDOL HEATING SYSTEM









Drumhead Panel



Perimeter Panel



Shallow Panel



Deep Panel



Acoustic Baffle

CUSTOM CEILING LIGHTING-WITH CATALOG COMPONENTS

By Making it fossible for the architect or lighting designer to juggle color, form and texture within the modular framework of the recently introduced Sylva-Lume wall-to-wall lighting system, Sylvania engineers and their industrial design consultants, Peter Muller-Munk Associates, have provided the basic integredients for an illuminated ceiling that goes a step beyond what Mr. Muller-Munk terms the "all-too-familiar corrugated answer to the problem of area lighting."

The skeleton of the system, a modular grid divided into 3-ft squares and hung directly from the ceiling or the fluorescent lamp fixtures, supports a lighting surface composed of standard units which can be combined and interchanged according to the designer's fancy. Three-

foot square vinyl plastic diffusing panels form the suspended ceiling, supplemented by acoustical baffles and by perimeter panels with which the system can be extended to fit room dimensions not adhering to the 3-foot module. Offered in three styles - shallow, deep and drumhead - the diffusers may be used singly for greater light output from the same number of fixtures, or in double layers for increased sound absorption. At present, the less expensive single panels come only in white; the double diffusers are available in white, pink and yellow, with additional colors hinted at for the future. Accent color is introduced by the blue, yellow and white acoustical baffles which snap onto the bottom of the supporting track. Made of perforated metal filled with soundabsorbing glass fiber insulation, the 3 ft baffles can be used to frame one or more panels or to run in lengthwise or crosswise strips between panel sections. They are joined by matching intersection columns available in five styles. The perimeter panels, which come in 3-ft square and 11/2 by 3 ft sizes, are made of a lightweight plastic-backed metal perforated in a random "swiss cheese" pattern. Easily cut to fit around columns and other structural elements which prevent the use of the plastic diffusing panels, or to extend the central ceiling area to meet the walls, the panels can also be used, in the 3 ft square size, to replace the diffusers as main pattern components. Sylvania Electric Products, Inc., 1740 Broadway, New York 19, N. Y.

(More Products on page 260)



MOVABLE METAL WALLS

The 1957 Mills Walls Catalog introduces a new series of aluminum partitions based on what the manufacturer terms "an entirely new concept in modular integration of movable interiors." The Milluminum series is presented with brief descriptive copy and perspective drawings of four typical applications, including the office shown at left. The other three types of Mills walls — Flush Pilaster, New Executive and Commercial — and the entire line of hardware and accessories are described in separate sections of the 68-page catalog, with accompanying photographs, detail drawings and cutaway illustrations: Technical information and suggested specifications are included in each section. The Mills Company, 993 Wayside Rd., Cleveland 10, Ohio.*

Lehigh Desks and Cabinets

Folder illustrates Lehigh's desk and cabinet line, including both the Modular styles and the new Custom styles designed by Gerald Luss. Contains photos, drawings and brief descriptions of a wide variety of models and accessories. Lehigh Furniture Corp., 16 E. 53rd St., New York 22. N. Y.

Permanent Repair and Restoration

... of Cracked and Spalled Concrete and Other Masonry Structures gives detailed instructions for performing such work with Permagile epoxy-based industrial polyplastic alloys. Walter R. Hillmann, Permagile Corp. of America, 37–23 Thirty-third St., Long Island City 1, N. Y.

Automatic Door Opener

Architectural data file on *Pittcomatic* hinge automatic door openers contains a 16-page brochure with technical information on handle and mat operated models, as well as detailed specifications for their use in standard and safety center-pivoted doors. *Pittsburgh Plate Glass Co.*, 632 Fort Duquesne Blvd., *Pittsburgh* 22, Pa.*

Treated Lumber and Piling

Hundred-page illustrated manual gives pertinent specifications of various states in the New England and Middle Atlantic areas; of the American Society of Civil Engineers; of the New York City Building Codes; and applicable Federal Specifications. Martin Piling & Lumber Co., 1070 Morris Ave., Union, N. J.

Garden Lighting Equipment

Bulletin 135–57 covers Steber line of lighting equipment for gardens and play areas, including *Pathlite* wide beam unit for walks or pathways and an outdoor twin receptacle fixture for underground wiring. 4 pp. *Steber Mfg. Co., Broadview, Ill.*

Dyfoam Plastic Foam Insulation

Six-page brochure discusses physical properties, sizes, installation and finishing techniques for *Dyfoam* long slab form plastic foam insulation. *Dyfoam Corp.*, 202 E. Cherry St., New Castle, Pa.

Membrane Waterproofing System

Eight-page brochure describes Glasfab membrane waterproofing system, with detailed specifications on both hot and cold process methods of application. Twinsburg-Miller Corp., P. O. Box 207, Twinsburg, Ohio.

Central Packaged Air Conditioners

Eight-page brochure describes American-Standard's new 2 and 3½ hp air cooled packaged air conditioners, with complete specifications and typical applications. American-Standard Air Conditioning Div., 40 W. 40th St., New York 18, N. Y.*

Aluminum Sliding Glass Doors

Folder contains full size detail drawings, complete data table and specifications for the d'Cor aluminum sliding glass door. Nudor Mfg. Corp., Dept. 5, 7326 Fulton Ave., North Hollywood, Calif.*

Incandescent Lighting Guide Book

Covers more than 1800 types and sizes of Sylvania incandescent lamps with sections on their general characteristics, filaments and performance; as well as bulb sizes, glass types and finishes, lamp bases, maintenance and servicing. 24 pp. Sylvania Electric Products Inc., 1100 Main St., Buffalo, N. Y.

Armco Steel Buildings

Manual SX-14456 features the Steelox panel method of constructing Armco steel buildings. Four basic types of buildings, as well as accessories and special features, are covered. 8 pp. Product Information Service, Armco Drainage & Metal Products, Inc., Middletown, Ohio.*

Redwood Goes to School

Sixteen-page "idea" booklet illustrates important developments in contemporary school planning with photographs of outstanding school designs from all over the country, and describes advantages of redwood for attractive, low-cost school construction. Service Library, California Redwood Assoc., 576 Sacramento St., San Francisco 11, Calif.

Specification for Metal Lathing

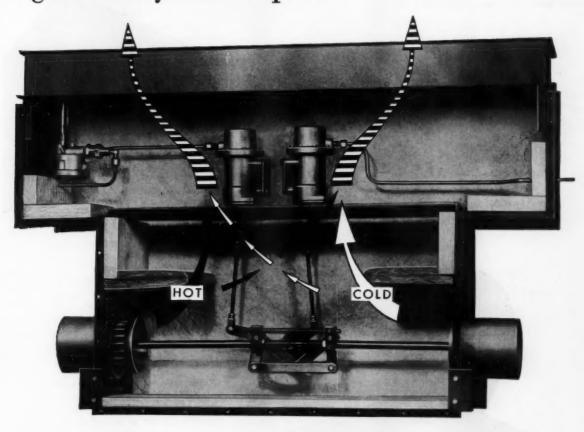
. . . and Furring (AIA 20-B-1) covers all phases of metal lath construction, with specifications and detail drawings. Fire-resistive ratings, specifications for materials and design tables are also included. 20 pp. Metal Lath Manufacturers Assn., Engineers Bldg., Cleveland 14, Ohio.*

(More Literature on page 288)

How ANEMOSTAT.

All-Air Constant Volume

High Velocity units operate



Here is a vitally important advance in the field of air distribution. Anemostat All-Air High Velocity units, with new simple automatic controls, deliver constant volume, no matter what the fluctuations from 1:4 or 4:1 on inlet pressures of either the hot or cold valve.

Each unit is a single package including the controls and integral thermostats, if required. There is complete accessibility of all controls through removable diffusers. No access panels are required. Capacities of CONSTANT VOLUME units can be pre-set at the factory.

These Anemostat CONSTANT VOLUME units

- · Assure scientific draft-free distribution of air.
- · Are available in 100% induction units.
- Include Anemostat die-cast metal rocket-socket valves.
 More than 50,000 of these valves are in service, and not a single one has needed maintenance.

Operate on standard 15 lb positive acting compressed air systems.

Each unit contains a micropressure regulator in the box, sensitive to .02 static pressure. This in turn operates a pneumatic motor and independently maintains by adjustment constant volume, while the wall mounted or integral thermostat controls the outlet mixture temperatures.



Write on your business letterhead for your copy of

New Anemostat Selection Manual 60

to Anemostat Corporation of America, 10 East 39 Street, New York 16, N.Y.

ANEMOSTAT: The pioneer of All-Air Velocity Systems

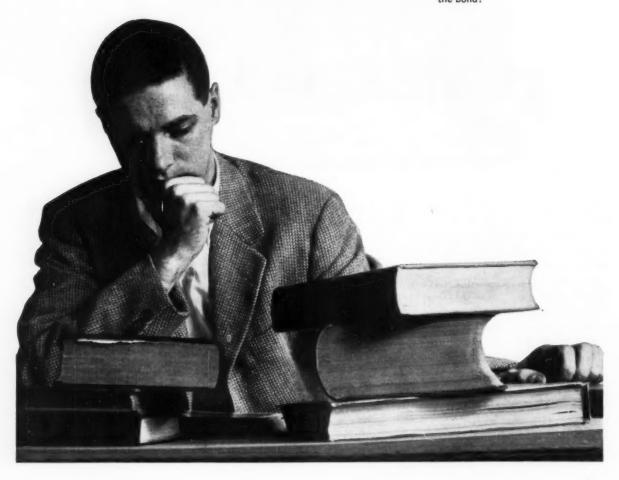
28 YEARS GUARDING RARE TREASURES from the weather—that's the record of the original Barrett SPECIFICATION® Roof on the Welch Medical Library of Johns Hopkins University. This Baltimore library houses a world-famous collection of priceless medical books. So it's easy to see why University trustees recently had the building re-roofed (though the original roof was still in flawless condition). Naturally, another Barrett Roof was applied. Proven materials and specifications... application by approved roofers only... inspection by Barrett experts... bond guarantee for up to 20 years—these factors combined make a roof that will serve as well on your latest designs as in decades past. BARRETT DIVISION, Allied Chemical & Dye Corporation, 40 Rector St., N. Y. 6, N. Y. In Canada: The Barrett Co., Ltd., 5551 St. Hubert St., Montreal, Que.

Barrett Roofer: F. A. Taylor Co., Baltimore, Md.



... they outlive the bond!

ARRETT ROOFS



ARCHITECTURAL RECORD

USEFUL CURVES AND CURVED SURFACES: 19-Cones

By SEYMOUR HOWARD, Assistant Professor, Pratt Institute, Architect associated with Huson Jackson and Harold Edelman

If every point on a plane curve is joined by a straight line to a point not in the plane of the curve, a cone is generated. Each straight line is called an element (or generator) of the cone; the curve is called the directrix. Since there is an infinity of possible plane curves, there is an infinity of possible cones. Every cone is a developable surface.

It helps in constructing a cone to know that every section of the surface is a curve of the same general type or degree as the directrix curve. All sections parallel to the plane of the directrix curve are curves which are parallel to the directrix curve (i.e. they are of the same shape, but larger or smaller.)

This fact is of value in drawing perspectives, since perspective projection consists essentially in drawing sections of a cone. Every second degree curve (conic section) drawn in perspective will therefore be a second degree curve. And every third degree curve will be some third degree curve; every transcendental curve (trig. functions, etc.) will be a transcendental curve.

The second degree or quadric cone is the one most used. Such a cone will be generated by using an ellipse, parabola or hyperbola as the directrix. These do not constitute different cones, in the way different cylinders are generated (see Sheet 17) but all generate cones of the general type:

$$\frac{\mathbf{x}^3}{\mathbf{a}^2} + \frac{\mathbf{y}^3}{\mathbf{b}^2} = \frac{\mathbf{z}^2}{\mathbf{c}^2}$$

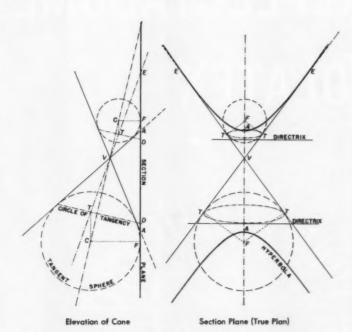
Or, where $k = \tan \alpha = \frac{\alpha}{c}$ and

$$I = \tan \beta = \frac{b}{c}$$

$$\frac{x^2}{k^2} + \frac{y^2}{l^2} = z^2$$

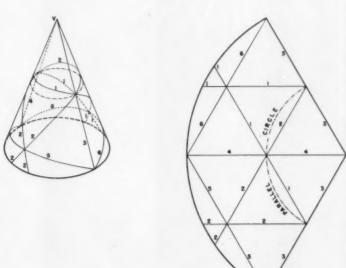
See drawing of the general elliptic cone on Sheet 20.

All sections of this cone parallel to a tangent plane of the cone are parabolas; all sections which cut only one nappe or sheet (surface on one side of the vertex) are ellipses, (Continued on Sheet 20)



Section of a Right Circular Cone By a Plane Which Cuts Both Nappes

(See also Sheet 20 for text)



Isometric Projection of a Right Circular Cone and Its Development, Showing Geodesics (See also Sheets 20, 21 for text)

NEW REFLECTADOME* SOLATEX

NOTE how Solatex Silver is crinkled for maximum efficiency

WASCO PRODUCTS, INC.

Bay State Road, Cambridge 38, Massachusetts
Wasco Chemical (Canada) Ltd., Toronto 12, Canada

the skydome that does all 3 reduces heat . . . eliminates glare . . . controls daylight

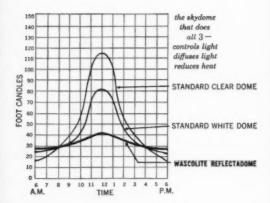
After years of development and research Wasco Products, the company that originated Skydomes, now offers you a revolutionary new overhead daylighting unit. It's Reflectadome, the one dome that reduces objectionable solar heat gain, eliminates glare and controls daylight — without supplementary light control fixtures.

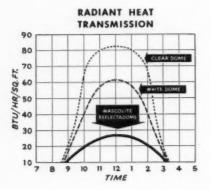
Reflectadome's secret is Solatex Silver, a special material embedded (not laminated) right into the acrylic dome. Reflectadome produces a remarkably level lighting curve to keep interiors evenly illuminated throughout the daylight hours for top visual performance.

Naturally, Wascolite Reflectadome features all the improved functional advantages of the Wascolite Skydome.

Solatex Silver embedments are available only from Wasco, so specify Wascolite Reflectadome by name.

Write immediately for full details on exciting new Reflectadome, the one Skydome that does all 3!—reduces heat...eliminates glare...controls daylight.
*Trademark of Wasco Products, Inc.





USEFUL CURVES AND CURVED SURFACES: 20-Cones

By SEYMOUR HOWARD, Assistant Professor, Pratt Institute, Architect associated with Huson Jackson and Harold Edelman

the circle being a special case; and all sections which cut both nappes are hyperbolas.

It often happens that a pair of conjugate diameters of an ellipse are known, but not the major and minor axes. In the figure below (which shows the same ellipse as used for the generator of the general elliptic cone shown) the conjugate diameters Q₁CQ₂ and P₁CP₂ are known along the isometric axes. (Q₁CQ₂ and P₁CP₂ are defined as conjugate diameters if the tangents at Q1 and Q2 are parallel to P1CP2 and if the tangents at P1 and P2 are parallel to Q1CQ2.)

To find the major and minor axes, draw P₁A perpendicular to CQ₁. Make $P_1B_1 = P_1B_2 = CQ_1$ The line bisecting the angle B₁CB₂ is the major axis D₁CD₂. The minor axis is the line E1CE2 at right angles. Then find F, the midpoint of CB₂. Join P1 to F, cutting CD at G and CE at H. The distance P₁G equals the semi-minor axis CE and P1H equals the semi-major axis CD.

In the case of the isometric projection of a circle, the conjugate diameters are the 30 degree axes and the major and minor axes are along vertical and horizontal lines. Knowing P on the 30 degree axis, the line corresponding to PF can be drawn directly at 45 degrees.

The cone most often used, because it is the simplest, is the right circular cone, in which the directrix is a circle and the vertex is on the straight line which is perpendicular to the plane of the circle and which passes through the center of the circle. The equations of the right circular cone simplify from those of the elliptic cone to:

 $x^2 + y^2 = k^2 z^2$ and, in cylindrical coordinates:

r = kzand in spherical coordinates, where ϕ is the co-latitude:

 $\phi = constant = a$.

The properties of the sections of the right circular cone are discussed on Sheet 2 of this series and also are the same as mentioned above under the general elliptic cone. In order to show clearly how the foci and directrices of the conic sections can be found geometrically, the diagram on Sheet 19 has been drawn showing a plane which cuts both nappes; the section is therefore an hyperbola. (The ellipses and parabolas are found in a similar fashion. See also the similar construction for the section of a cylinder, which gives an ellipse, on Sheet 17.)

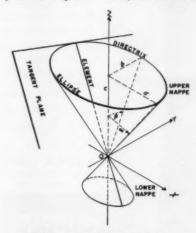
Draw the two spheres which are tangent to the cone and to the section plane. Find the intersection of the plane of the circle of tangency

with the section plane. This line is the directrix of the hyperbola. The point of tangency of the sphere with the section plane is the focus. It is also the projection of the center of the sphere. With the directrices and the foci established, follow one of the procedures of Sheet 6 for drawing the hyperbola.

Note that the traces of the sides of the cone as projected can be located by drawing on the elevation a line through the center of the sphere parallel to the section plane. The point T where this intersects the circle of tangency is a point on the trace. The line joining this point to. the vertex is the edge desired. The point E is the intersection of this edge with the section plane.

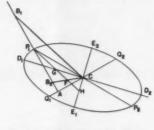
The most useful way to draw a right circular cone so that it can be drawn in any projection, including perspective, is to utilize spheres which are tangent to the inside of the surface of the cone. The spheres are circles in any projection and the cone is always tangent.

To develop the surface of a right circular cone, drawn an arc of a circle with the vertex as center and an element (straight line on the side) as radius. Measure off on this arc a length equal to circumference of the base circle. Join end points to vertex. (See drawing, Sheet 19.)

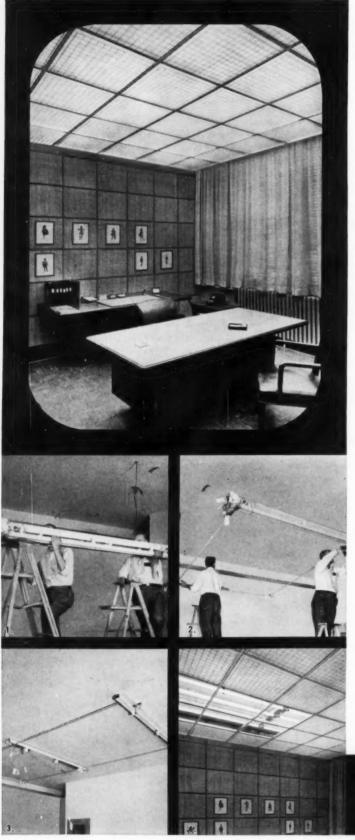


General Elliptic Cone (Isometric Projection)

(See also text on Sheet 19)



Conjugate Diameters of An Ellipse



New Curtis strato-lux luminaire features curticell louver-diffuser and economical installation

 Strato-Lux, a free-floating large area luminaire, provides evenly distributed, glare-free illumination with the exclusive new CurtiCell louver-diffuser of vlnyl plastic.

CurtiCell is the only diffusing element to provide both light diffusion and shielding of the diffusing medium through the unique combination of a flat and a formed sheet of cellular design. An interesting textured ceiling results, without the monotonous appearance common to ordinary diffusing media.

Ask your Curtis representative for his professional assistance in applying the Strato-Lux principle to your lighting requirements.

- 1. Clamp hangers are mounted to ceilings or stems. Pre-wired grid is lifted to ceiling, inner packing intact.
- 2. Large channel is suspended from clamps. The small channels are moved outward, spaced by locked-in tubing, and suspended from clamps.
- 3. Additional grids are installed as required.
- Spoke hangers are mounted to grid. Inverted "T" framework, is attached, lamps and CurtiCell panels are installed.

CURTIS LIGHTING, INCORPORATED 6135 W. 65th St., Chicago 38, Illinois

OURT S

in California 242 S. Anderson St. Los Angeles 33, California

in Canada 195 Wicksteed Toronto 17, Canada

USEFUL CURVES AND CURVED SURFACES: 21 - Cones

By SEYMOUR HOWARD, Assistant Professor, Pratt Institute, Architect associated with Huson Jackson and Harold Edelman

Geodesics can always be found by drawing straight lines on this developed surface when flat. One triangular net of geodesics which might be used structurally is shown. The development, of course, gives the true area of any portion of the

The lines of curvature on a right circular cone are the straight elements (or meridians), lines 3 and 4 on the drawing on Sheet 19, and the parallel (or latitude) circles, only one of which is shown here as a dot-dash line.

Note that the parallel circles are not geodesics, although the elements are. The parallel circles show as arcs on the development.

The conical helix (not shown) is the space curve which lies on the surface of the right circular cone and which makes a constant angle with each parallel or latitude circle. Its plan projection is a logarithmic spiral (see Sheet 13). It is not a geodesic line.

To develop any arbitrary conical surface (see drawing): Given the plan and elevaton, divide the length of the directrix curve into any convenient number of parts by a series of points, here 16. Draw the straight line elements joining each of these points to the vertex. Starting with number one, find the true length of each element, by setting V'V as the true height of the vertex and V'1 as the true plan projection. The hypotenuse V.1 is the true length. For the development, from the vertex draw a line V1; then swing an arc of length V2 from V, and from 1 swing an arc of the true arc length 1.2; where these intersect is the developed position of 2. Continue in this way until all the elements are drawn. Then draw a smooth curve through all the numbered points. It will be noted that the accuracy of this method depends on the number of elements used, since the chord lengths are used as arc lengths in the development.

The elements are also lines of

curvature; the other lines of curvature are found by drawing arcs on the development with the vertex as center. One such line is shown here as a dotted line. These can then be transferred to the plan and elevations or other projections. These lines of curvature are helpful when using rolls to bend a flat plate into a cone; the axes of the rollers can be inclined, and the lines of curvature which are at right angles to the elements must form closed curves.

Pyramids are surfaces generated by joining every point on a polygon to a point not in the plane of the polygon. They may be used to approximate cones or for their own

For areas and volumes of pyramids and cones see Time-Saver Standards, third edition, page 17.

FRRATA AND ADDENDA

Sheet 14. Methods of Study

Soap solution recommended: Dissolve 10 grams of dry sodium oleate in 500 grams of distilled water. Mix 15 cubic parts of this solution with 11 cubic parts of glycerine.

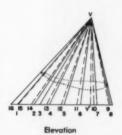
Sheet 17

In the equation of the right circular cylinder and in the equation of the circular helix, the angle should be Θ (agreeing with the diagram) and not ϕ . (ϕ is the angle which the helix makes with a generating element of the cylinder.)

At the bottom of the page, for areas, surfaces, etc., the reference should be to page 17 of Time-Saver Standards in lieu of page 25.

The second sentence should read:

There are only three regular tessellations (patterns) in which all the polygons are identical. There are only eight semi-regular tesselations, in which all the polygons are regular but not identical; all the sides are of equal length,



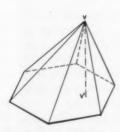
True Lengths of Elements



Plan



Development of an Arbitrary Cone



An Oblique Regular Hexagonal Pyramid

Development



Recessed type lighting complements the appearance of this suspended acoustical ceiling of Armstrong Arrestone.

How to select lighting for

Since lighting and acoustical treatments almost always make use of the ceiling area, it is good practice to consider them together, rather than as separate elements.

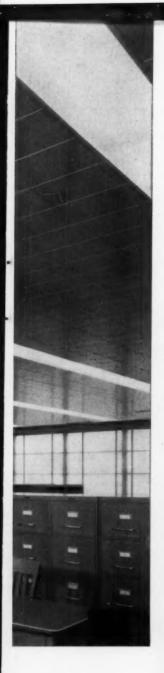
When selecting any type of lighting fixtures, it is always advisable to consider the effect they will have on the appearance of the acoustical ceiling.

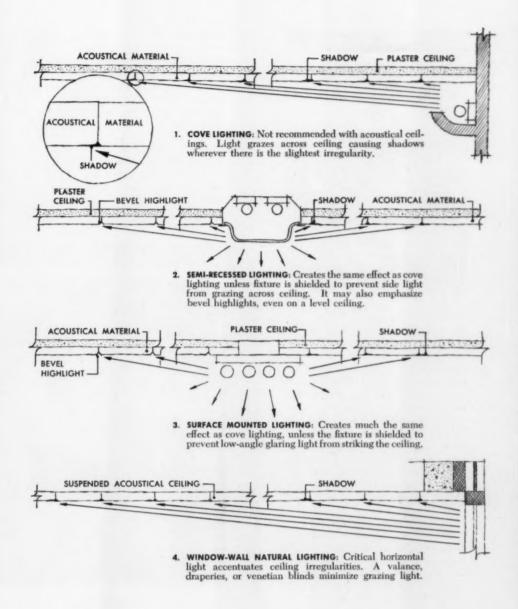
Fixtures located close to the underside of the ceiling, such as cove lighting, are generally unsatisfactory. In such cases, light grazes across the ceiling and emphasizes variations as small as .005 of an inch.

Window-wall lighting and semi-recessed fixtures often create the same uneven ceiling effect. Yet both can be used with acoustical ceilings if grazing side light is eliminated. With window-wall lighting, this can be done with a valance, draperies, or venetian blinds. Shielding around the outside of semi-recessed fixtures accomplishes the same purpose.

Surface mounted fixtures can also be troublesome in causing ceiling shadows. However, this type of fixture can be shielded to prevent low-angle glaring light from grazing across the ceiling.

The most functional of all types of lighting is the flush recessed fixture commonly used with suspended acoustical ceilings. Besides providing excellent illumination, this type of installation eliminates





an acoustical ceiling

the shadow problems of side lighting and complements the appearance of an acoustical ceiling.

Regardless of the type of fixture selected, its maximum efficiency will still depend upon light-reflecting surfaces in the area where it is used. That is why all Armstrong Acoustical Ceiling Materials have a factory-applied white finish with a light-reflection value of "a" (more than 75%), as listed in the current Acoustical Materials Association Bulletin. These materials diffuse light evenly, without annoying glare.

Your Armstrong Acoustical Contractor can give you complete information on selecting the best type of lighting for acoustical ceilings, as well as data on the entire line of Armstrong Acoustical Ceilings. You'll find him listed in the Yellow Pages. For your free booklet on the latest sound-conditioning materials and methods, write to Armstrong Cork Company, 4206 Rock Street, Lancaster, Pennsylvania.

Armstrong

ACOUSTICAL CEILINGS

Cushiontone® • Travertone* • Arrestone®

Minatone® • Corkoustic® • Crestone®

*TRADE-MARK

TECHNICAL ROUNDUP

(Continued from page 236)

PLASTIC BUBBLE EVOLVES FROM WAREHOUSE TO AIRHOUSE



Dressed-up with a floor plan by Frank Lloyd Wright and interiors by Herman Miller, the inflatable plastic "igloos" first introduced as low cost portable warehouses are staging a sortie into the realm of housing. On the strength of the successful debut made by an experimental model of the Air House at the International Home Exposition held in the New York Coliseum, its fabricators, the Irving Air Chute Company of Lexington, Ky., are now aiming a somewhat modified version at the consumer market for beach houses, vacation homes and semi-permanent housing of all kinds.

The new Air House, like its more utilitarian predecessors, is basically an inflated shell of tough vinyl-coated nylon fabric, which is blown up like a balloon and supported by a constant stream of low air pressure. Its two adjoining hemispheres, — one 38 ft in diameter and 19 ft high; the other 24 ft in diameter and 12 ft high, — are securely anchored to the ground at its base by a sausage-like tube filled with sand or water.

In the industrial models, air support has been supplied by inexpensive blowers; the demonstration house uses air pressure from a combination heatingcooling system consisting of two condi-

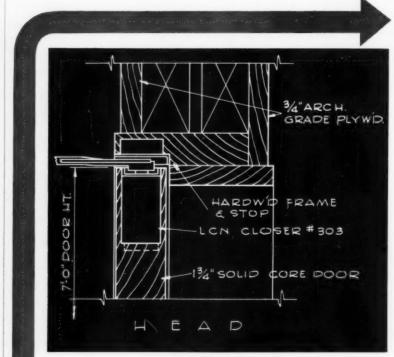


tioners located about $2\frac{1}{2}$ ft away from the outer perimeter of the domes. Two dampers regulate the amount of outside air introduced to the structure to compensate for air lost by leakage and through openings. Air loss is further reduced by the use of a revolving door in the outside opening.

In the demonstration model, half of the larger dome is used for the living room, while the remaining half contains the dining room, fully equipped kitchen, study and bath, with an all-purpose family area along the curved outer wall. The smaller dome is used for sleeping.

Because its Fiberthin shell requires no foundation or support other than that of the air pressure and can be folded up into a small lightweight package, the Air House is portable. This, as was pointed out in a recent description of the house, holds certain advantages for people with nomadic leanings. At the first sign of restlessness, they can simply turn off the air blower, let out the water in the base, fold up the house, throw it in the car trunk — and move on.

(More Roundup on page 252)



CONSTRUCTION DETAILS

for LCN Closer Concealed-in-Door Shown on Opposite Page The LCN Series 302-303 Closer's Main Points:

- 1. An ideal closer for many interior doors
- 2. Mechanism concealed within door; flat arm not prominent, and provides high closing power
- 3. Door is hung on regular butts
- 4. Closer is simple to install and to adjust
- 5. Hydraulic back-check protects walls, etc. on opening
- Practically concealed control at little more than exposed closer cost

Complete Catalog on Request—No Obligation or See Sweet's 1957, Sec. 18e/La

LCN CLOSERS, INC., PRINCETON, ILLINOIS



MODERN DOOR CONTROL BY LCN CLOSER CONCEALED IN DOOR

UNITED STATES NATIONAL BANK, DENVER, COLORADO

James S. Sudler, A.I.A. Architect

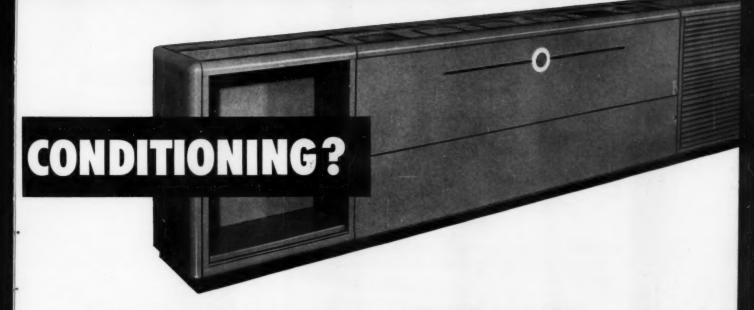
Maria Bergson Associates
Associated Designers

LCN CLOSERS, INC., PRINCETON, ILLINOIS

Construction Details on Opposite Page

Will The School You Are Planning





Plan with the new HerNel-Cool II INSTALL IT NOW—AIR CONDITION LATER

Nearly every school would benefit from air conditioning now—as have offices, theaters, hospitals and homes. Unfortunately, the money to provide it isn't always in the current school budget. The HerNel-Cool II year 'round unit ventilator solves that problem.

These units can be installed now so that the school enjoys all the usual benefits of the famous Herman Nelson DRAFT|STOP system—heating, ventilating, natural cooling (with outside air), and control of window downdrafts. Only the addition of a chiller in the boiler room is needed for complete hot weather air conditioning.

It can be provided initially or at any future time. When it is wanted, air conditioning can be secured without disruption . . . and without expensive alteration and installation charges.

HOW THE SYSTEM WORKS

HerNel-Cool II units provide individual temperature control for each room, automatically. Most of the year they provide heat, ventilation, or natural cooling (with outside air) as the room requires. When a chiller is installed in the boiler room, HerNel-Cool II units also function as air conditioners.

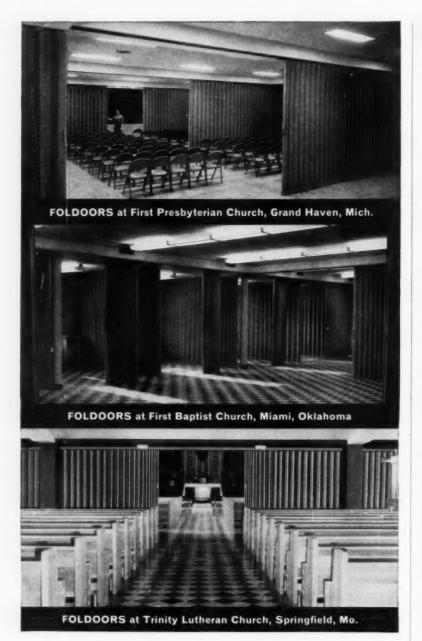
In hot weather, the units switch automatically to mechanical cooling, with chilled water circulating in the same piping that carries hot water during cold weather. The cost is far less than separate heating and air conditioning systems—both for installation and operation.

Would you like more information? Just write to Herman Nelson Unit Ventilator Products, American Air Filter Company, Inc., Louisville 8, Kentucky.



ANY FUEL, ANY CLIMATE—There is a Herman Nelson Unit Specifically

Designed to Give You More Classroom Comfort Per Dollar



• For flexible congregation space, for double-duty Sunday school and recreational rooms, leading architects everywhere are specifying Foldoor.

Whether for new construction or old, you'll be glad you followed their example. See your Foldoor distributor (listed in the yellow pages)—or write us direct.

HOLCOMB & HOKE MFG. CO., INC.



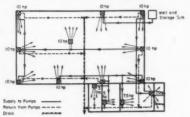
1545 Van Buren Street Indianapolis 7, Indiana In Canada: FOLDOOR OF CANADA, LTD.

INSTALLING DISTRIBUTORS IN ALL PRINCIPAL CITIES



TECHNICAL ROUNDUP

WATER-TO-AIR HEAT PUMP CROSSES CLIMATE BARRIER



A barrier to the use of heat pumps in cold climates has been crossed - appropriately enough - by a manufacturer of heat pumps. Recognizing the inability of the conventional air-to-air pump to supply adequate heat in below freezing weather without supplementary heating equipment, the American Coils Company has installed in its new Farmingdale, N. J., plant a 123 hp packaged system that uses well water rather than outside air as its source of heat. By taking advantage of the relatively stable temperature of water stored under ground, the company's engineers were able to design a system that will maintain comfortable temperatures inside the plant even when outside temperatures drop below zero, and will operate more efficiently during the summer months because the well water remains far cooler than the outside air. The water-to-air system in the plant uses 14 standard ACI-H units with a total capacity of 2,000,000 Btu's for winter operation, and 1,470,000 Btu's for summer cooling. Water for the heat pump system is pumped from a 505 ft deep well located just outside the plant, supplying water to a 10,000 gallon capacity storage tank at an approximate pressure of 60 pounds per inch. From there it is delivered to the individual heat pumps through copper piping buried beneath the concrete floor of the plant. Installation of the storage tank, which is insulated against temperature changes by two feet of earth, permitted the pumps to be equipped with a water-saving automatic valve that controls the amount of water each unit draws by regulating head pressure. The tank also supplies water for domestic use and fire pro-

Because the system requires no ductwork, installation costs were cut by from \$40,000 to \$50,000, in addition to the reduced operating costs. Elimination of the ductwork also allowed greater freedom in planning the plant layout.

(More Roundup on page 256)



Why WEIRKOTE[®] zinc-coated steel carries lots of weight with today's architects

Specifications like this are becoming more and more an old story to architects everywhere:

SHEET METAL WORK— Materials—Galvanized steel. Unless otherwise specified, this shall be of 26-gauge galvanized sheet steel, of "Weirkote" with make and gauge stamped on each sheet.

And there's plenty of reason for specifying Weirkote zinc-coated steel. Inside or outside the building—in heating and ventilating ductwork, ducts for dust and fume removal, rain drainage items; water type air coolers, other uses—Weirkote brings greater durability and corrosion resistance to sheet metal work. And the cost is low compared with other materials.

Weirkote, made by a continuous galvanizing process, has the skin-tight zinc coating that won't flake or peel despite punishing fabrication or rough handling on the job.

Free Weirkote Booklet

Send for the new Weirkote booklet today. Write Weirton Steel Company, Dept. Q-7, Weirton, West Virginia.



WEIRTON STEEL COMPANY

WEIRTON, WEST VIRGINIA

a division of





hufcor

LAMINATED ACCORDION DOORS

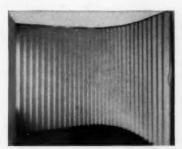
are designed to provide maximum sound insulation characteristics without relying on costly and bulky inner liners. The heavy (55 ounce per square yard) cover construction forms a natural sound barrier between room areas. Tests prove that

Hufcor, with inexpensive sweep strips, outperforms special acoustically treated folding doors selling at much higher prices. You can specify Hufcor with complete confidence that you will receive quality beauty, operation and economy.

only Hufcor

offers you superior sound resistance... plus:

less stacking space
smooth action
wrinkle-free covers
symmetrical beauty
resistance to impact
interchangeable covers
quick installation
flame resistance
semi-rigid covers
designer-approved colors
complete line of accessories



Hufcor accordion doors on curved track operate easily and uniformly without alteration. There is no binding.



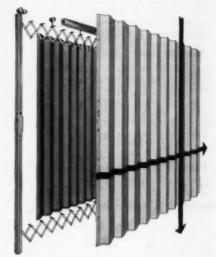
"Knockable" Hufcor covers are made of 5-ply laminated vinyl and tough, high strength fiber board. Distinctive handle latch of anodized aluminum is unique both in appearance and function—a Hufcor exclusive.



Complete areas can be closed off with the trim, rigid Hufcor. No need to fear damage from large crowds or active children. Hufcors move easily by hand. Valley Ho Hotel, Scottsdale Arizona. Architect: E. L. Varney & Associates.



New areas can be made from old with Hufcor. Pivot switches, glide switches, multiple meeting posts, rolling posts, recessed channel, and other accessories all provide complete flexibility for room division. Mt. Calvary Lutheran Church, Janesville, Wis. Architect: R. H. Bierman, Milwaukee.



HOUGH

Manufacturing Corporation, Janesville, Wisconsin In Canada contact: CANADIAN VENTILATING SHADES, LTD., Peterborough, Ontario

This exploded view of Hufcor shows the simplified, trouble-free, pantograph system. The straight, rigid lines of the covers make Hufcor the "architecturally correct" door.

Dept. AR		
Gentlemen: Please send me comple	te information on t	he Hufcor Accordion
Door Have re	presentative see me	
Name		
Firm		
Street		
City	Zone_	State
Architect	Builder	(Other)

TECHNICAL ROUNDUP

ALUMINUM AND GLASS TEPEE TURNS TO FOLLOW THE SUN



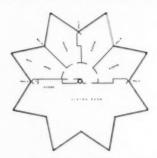
Aluminum triangles clustered tepeestyle around a central "tent pole" cap a revolving beach house that will spin on a turntable to allow its occupants to keep the sun where they want it.

Fanning out from a height of 151/2 ft at the center, the conical structure forms an eight-pointed star 37 ft in diameter at the base. Its roof is made up of sixteen triangular aluminum panels joined in pairs, with their long edges meeting in deep valleys which extend from the points of the star to the tip of the central aluminum column. Where the short edges of the triangles come together, the roof flares out to add height to the openings below.

The "walls" of the beach house are triangular glass panels which fit into the inverted V-shaped grooves formed by the roof. Pivoting outward around a center mullion, they are backed by goldanodized aluminum screening that will allow ocean breezes - sans insects - to sweep through the house.

Interior partitions are low walls radiating from an areaway around the central column. Half of the floor space is devoted to the living area, including kitchen and dining alcove; the other half is divided into three bedrooms and a combination bath and dressing room.

Designed by architects Harrison and



Abramovitz of New York, the whirling beach house is the latest creation commissioned under Alcoa's Forecast program of designs in aluminum (Archi-TECTURAL RECORD, February 1957, p.

"COMFORT ENGINEERING" CUTS HOME HEATING-COOLING COSTS

A two-year test program on 172 homes located throughout the country is currently being conducted by Owens-Corning Fiberglas Corporation to determine whether an average-size (1200 sq. ft) home can be heated and cooled all year for \$10 a month. Although the homes represent many sizes and types, they all meet the "comfort engineering" minimums set up by Tyler S. Rogers, technical consultant for Owens-Corning. These standards include proper shading of glass areas, maximum use of insulation and the ventilation of attics or roofs. Since the floor areas vary widely, and fuel and power rates vary in different cities, the results are being determined by relating each individual test house to a standard 1200 sq. ft floor area using fuel and power at the national average rates. Figures now available from 120 houses in the test indicate that heating and cooling costs are averaging \$10.64 a month, less than 10 per cent above the target figure.



VITALLY IMPORTANT Specify and Relax!

Large fin area for quick and efficient air cooling—Timken Tapered Roller Main Bearing, adjustable for wear—Positive Centro-Ring pressure oiling system.

Available for prompt delivery

With 103 years of engineering and manufacturing experience "built-in" you can be confident that there are no finer air compressors on the market than Curtis.

REMEMBER ... YOU CAN COUNT ON

CURTIS MANUFACTURING CO.

PNEUMATIC DIVISION

1986 KIENLEN AVENUE . ST. LOUIS 20, MO.

CM-24

GROIN VAULTED ROOF RESTS ON TOWERS, FREES INSIDE SPACE



An early chapter in architectural annals has been brought up-to-date in Ohio State University's new L. W. St. John Arena. To give 13,000 spectators an unobstructed view of the playing floor, the Office of the University Architect, under the direction of Howard Dwight Smith, FAIA, came up with the idea of supporting the roof by diagonal arches resting on four towers at the corners of a square plan. These four towers, which enclose the stairs and ramps that provide access to and exits from the banks of seats, face each other at a 45 degree angle to the building's sides, leaning inward a fraction of an inch to offset the outward thrust of the steel trusses.

The two trusses in each main arch run parallel to each other, 28 ft apart, forming bridges of steel beams slightly more than nine feet thick at the towers and tapering at the peak. Four barrel-shaped roofs span the triangular segments carved out by the trusses, meeting at the center to form the groin vault construction.

For the roof itself, batten type aluminum roofing was applied over a metal deck insulated with two inches of rigid insulation sandwiched between two layers of 30-pound felt.

BRAB Conducts Sewer Pipe Study

A special committee of the Building Research Advisory Board has been appointed to conduct a survey on the use of small-size (8 in. or less in diameter) residential street sewer pipe. The data will be used by the FHA in establishing related requirements. By surveying government sources, engineers, research institutions and manufacturers to learn their experiences with 8-inch and smaller sewers, the Advisory Committee hopes to determine whether residential sewers are being built larger than necessary, resulting in needless expense; whether small-size pipe is feasible in view of frequent terminal extensions necessary to service additional housing; and whether it requires impractically steep

WEATHER "MADE TO ORDER" FOR HARNESS RACING FANS



A quick cure for the ailing gate receipts that plague outdoor sports of all kinds is projected by the Roosevelt Raceway harness track at Westbury, Long Island, which will launch its summer season with an air conditioned, glassed-in upper grandstand section seating 7500 fans. Believed to be the first of its kind in the country, the complete installation will provide 650 tons of air conditioning capacity, automatically controlled by a sensitive pneumatic system. Fourteen central fan systems, which will utilize steam for heating and chilled water for cooling, will be operated from a central control panel to allow starting and stopping of remotely located supply fans, and the starting and stopping of exhaust fans in stages. Also included in the system are 115 unit heaters equipped with automatic steam valves controlled by dual room thermostats.

IMPORTANT REASONS WHY

Architects-Engineers-Contractors and Owners

prefer the CURTIS 50 Ton PACKAGED AIR CONDITIONER

INSTALLATION EASIER: Line assembled at the factory—eliminates expensive field labor.

PERFORMANCE KNOWN: Curtis units are run-in at the factory and guaranteed to deliver their rated tonnage.

Assures a BALANCED SYSTEM.

DELIVERY ON TIME: Curtis can meet your delivery requirements, a decided advantage over multiple supplier delivery promises!





OUR 103rd YEAR



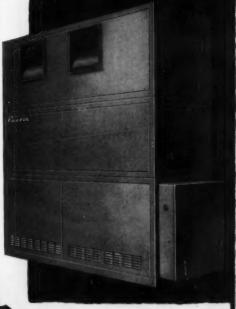
PACKAGED LIQUID CHILLER UP TO 100 TONS



PACKAGED AIR COOLED UNITS UP TO 71/2 TONS



AIR HANDLING UNITS COOLING TOWER AND EVAPORATIVE CONDENSER TO MATCH



MANUFACTURING CO.
REFRIGERATION DIVISION

1986 Kienlen Ave., St. Louis 20, Mo.

CM-23

A Great Symbol of...

.. Progressive Architecture

WESTERN AREA HEADQUARTERS
BELL TELEPHONE COMPANY OF PENNSYLVANIA
PITTSBURGH, PENNSYLVANIA

When completed, the Western Area Headquarters Building of the Bell Telephone Company of Pennsylvania will truly represent a "Symbol of Progressive Architecture."

Especially designed, Flour City shop fabricated two story pressed aluminum panel units, reduce the number of field joints thereby speeding erection and lowering costs. Flour City RA-60 Reversible Windows are specified throughout.

The pressed panel facets accent light and shade and produce a decided contrast to flat wall design. Panels are anodized grey. Reversible sash are anodized natural aluminum. An interesting vertical accent is provided by the mullions with center portions anodized grey and portions adjacent to the windows anodized natural aluminum.

Distinctively different and truly contemporary in design, this building represents an important contribution to the architecture of the "new" Pittsburgh.

Flour City salutes the skill and craftsmanship of the Architects of America. Our sixty-three years experience in metal fabrication and custom design is available to you. Your inquiries are welcome and invited.



See our curtain wall, door and window catalogues in Sweet's file.

FLOUR CITY Ornamental Iron Company

2637 27TH AVENUE SOUTH, MINNEAPOLIS 6, MINNESOTA

PRODUCT REPORTS

(Continued from page 237)



Modular Movable Walls

The bronze curtain that has drawn accolades for Mies van der Rohe and Phillip Johnson's office tower at 375 Park Avenue in midtown manhattan is being rivaled by another wall system — on the interior of the same building. With E. F. Hauserman's new *Horizon* system of movable partitions, which will make its debut in the Seagram Building, the design freedom and flexibility that characterizes exterior curtain walls is transposed to building interiors. The first movable wall system that is modular in all its dimensions, it includes a wide range of standard components, all com-

pletely interchangeable to give the architect scope for his imagination without recourse to custom design. The major innovation is the post system which not only offers variety in itself, but also allows the use of practically any type of panel - from a glass curtain suspended off the floor and falling short of the ceiling to sheets of plywood installed over an entire wall with only tiny beveled joints to mark the location of the recessed posts. If the design calls for the posts to be exposed, either flush or obtruding, post covers are available in shapes ranging from fluted to oval to oblong to square. And realizing that there are two sides to every story, Hauserman has made both its solid pan-





Protective-Curing with Orange Label **SISALKRAFT** means Better Concrete

Rolled over new concrete, Orange Label Sisalkraft assures complete, uniform curing. It retains the original moisture in the mix—no additional water is needed. Strong, durable, dust-free concrete results...at a lower material and labor cost than with any other method. Tough, waterproof, scuff-proof Orange Label Sisalkraft also protects the slab during and after curing—keeps debris and workman traffic from marring or staining the concrete.

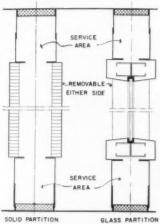
American SISALKRAFT Corporation

Chicago 6 • New York 17 • San Francisco 5
Other Products in the SISALKRAFT LINE

Sisalkraft Moistop — Permanent vapor barrier Sisalkraft Vaporstop — Rot resistant vapor barrier Sisalation — Reflective insulation and vapor Copper Armored Sisalkraft — Electro sheet copper for permanent waterproofing and concealed flashing.

Sisalite — Pure polyethylene film
Sisal-Glaze — New plastic glass replacement

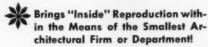
els and the post covers interchangeable from either side, so that offices on opposite sides of a partition can be given entirely different decor without departing from the standard partition system. Relocated, doors or frames can easily be adapted to building variations by adjustments provided at base, ceilings, and ends. The walls can be installed from floor to ceiling, off the floor or off the ceiling, with electric wiring, telephone lines and utility services built into the baseboards. E. F. Hauserman Co., Cleveland, Ohio.



(More Products on page 264)



NEW! Copyflex Model 300!



Now, with your low-cost, versatile Model 300, you can make high quality prints when you want them—rapidly, privately, and in any quantity. You can exercise complete control over valuable originals at all times.



With its compact size, big printing width, and low cost, the Model 300 is an ideal helper for your big reproduction machine. Strategically located throughout your company, Model 300s can bring new speed, convenience, and efficiency to your reproduction operations.

Here it is! The compact, low-cost reproduction machine that offers all the versatility and big printing width of a large, expensive whiteprinter!

Just think—you can make sharp, black-on-white prints in seconds of a drawing or tracing up to 30 inches wide by any length. And anyone can operate the Model 300 after only brief instruction. One fingertip control turns the machine on or off and regulates its speed. Exposure and development are automatically synchronized.

The new Copyflex Model 300 is ideal for drafting rooms and offices because it can be operated anywhere without annoyance to personnel in the vicinity. It is clean, quiet, and odorless. No exhaust venting, plumbing, or accessory equipment required. It needs only a connection with a 115-volt AC outlet for operation.

If you're pressed by the boom in production for more and more drawings and prints, the all-new Copyflex Model 300 is your answer! Its low initial cost, outstanding economy of operation and maintenance, and convenience make it your soundest, low-cost investment of the year. Mail coupon today! You'll be glad you did!

BRUNING Best Processi Best Machinesi Best Selection of Materials Copyflex

Offices in 38 Cities of the U.S. and Canada

CHARLES BRUNING COMPANY, INC., 4700 MONTROSE AVE., CHICAGO 41, ILL. In Canada: Charles Bruning Co. (Canada) Ltd., 105 Church St., Toronto 1, Ont.

4700 Mor	BRUNING CO., De atrose Ave., Chicago	pt. 63-AR 41, III.
Please se Model 30	nd me information 0.	on the all-new Copyflex
Name		Tille
Company		
Address		

FIGURED GLASS MAKES .





Used on all sides of these cheery offices of W. P. Fuller & Co., San Francisco, lustrous Mississippi Broadlite glass wraps them in a wall of living light . . . floods adjoining areas with richer, softer illumination. Sliding doors of Broadlite complete the bright, modern look.

Architects: H. F. Everett & Associates. Contractor: Coopersmith Bros., Inc. Glazier: Pittsburgh Plate Glass Co.

Even the students farthest from the windows enjoy the benefits of conditioned daylight in the Quakerstown High School, Quakerstown, Pennsylvania. Installed in the upper two rows of sash, figured glass transmits eye-easy, natural illumination deep within the rooms. Note absence of sharp, shadows and harsh contrasts.

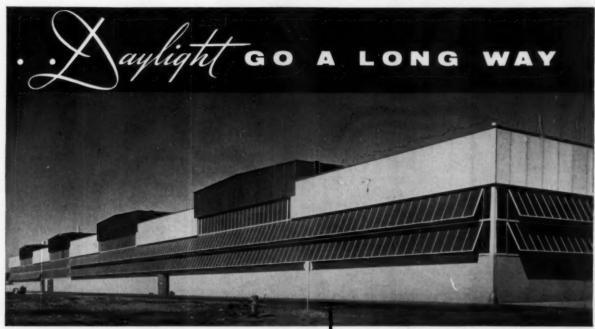


MISSISSIPPI

NEW YORK . CHICAGO . FULLERTON, CALIF.

LARGEST MANUFACTURER OF

D



Architects: Smith, Powell & Morgridge

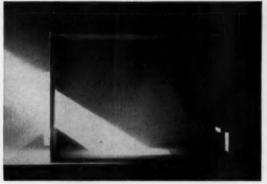
The property of light diffusion in figured glass is one of the most useful tools available to the architect and engineer. By its means rooms can be adequately daylighted far from windows, small skylight areas can cover a large expanse of floor with shadowless daylight, privacy can be secured, light can be controlled. Achieve better daylighting with translucent, light diffusing glass by Mississippi. Available through leading distributors in a wide variety of patterns and surface finishes to meet every requirement.

Installed in top hinged windows, heat absorbing, glare reducing glass floods this factory with conditioned daylight. Diffusing light deep into the plant, it reduces contrasts that tend to cause costly visual errors, absorbs up to 50% of solar heat rays to keep interiors more comfortable. Employees see better, feel better, work better.

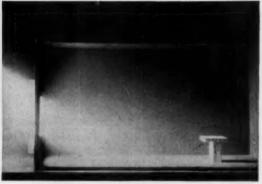
Send for catalog 57-G.
Address Department 7.



Smoke Box Photos Prove Light Distribution Qualities of MISSISSIPPI GLASS



CLEAR GLASS—Actual photograph of "smoke box room" with its window glazed with clear glass. Note high concentration of light near window.



DIFFUSING GLASS — Smoke box photo — window glazed with diffusing glass. Note uniformity of lighting and its distribution to far side of room.

In these photographs the box is built to a scale of 1'' = 1' to represent a room 12' high, 12' wide and 24' deep. The "window", centered in one end, is 4' square, 3' above the floor.

GLASS COMPANY

88 Angelica St. • St. Louis 7, Mo.

G

POLIED, FIGURED AND WIRED GLAS



Fleetlite windows offer unequaled economy and ease of maintenance. Self-storing double sash is safely cleaned from inside — provides added insulation to reduce heating and cooling costs. Windows are factory assembled and shipped ready for immediate installation.

Durability, Dependability and ease of operation make Fleetlite the preferred window for dormitories, hospitals and institutional buildings as well as the finest residences.



Picture Window Beauty Plus Sliding Window Convenience!

Combined Fleetlite picture and sliding windows make an attractive and practical unit, provide maximum light plus the benefits of controlled ventilation and double sash protection.



Please	send	complete	information
on Fle			

- Double Horizontal Sliding Windows
- Double, Double Hung Windows
- ☐ Sliding Doors and Picture Walls
- ☐ Jalousie Windows and Doors

FLEET OF AMERICA, INC., 2029 Walden Avenue, Buffalo 25, N. Y.

PRODUCT REPORTS

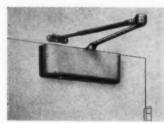
Compact Multi-Coil Water Heater

Ruud's heavy-duty multi-coil gas water heater is now available in a new compact model which requires only 30 by 38 inches of floor space. Designed for use singly or in multiples, with auxiliary storage tanks of from 100 to 3,000 gallon capacity, the *Model 500A* has a 460,000 Btu input. It contains seven removable horizontal coils formed of 15 gage copper tubing, and comes complete with all necessary controls. *Ruud Mfg. Co. Kalamazoo, Mich.*



Concealed Kitchen Dispensers

The housewife who prefers to disguise such strictly utilitarian tools of her trade as rolls of paper towels, waxed paper or aluminum foil, can now hide them behind the flush face of a recessed dispenser that fits into a 4 in. wall. Called Conceal-All, the dispensers are available in several models and sizes to hold a variety of kitchen and bathroom, miscellany. Finishes include chrome, copper and combinations of metal frames with white enamel doors. A. Marchand Inc., 101 Park Are., New York 17, N. Y.



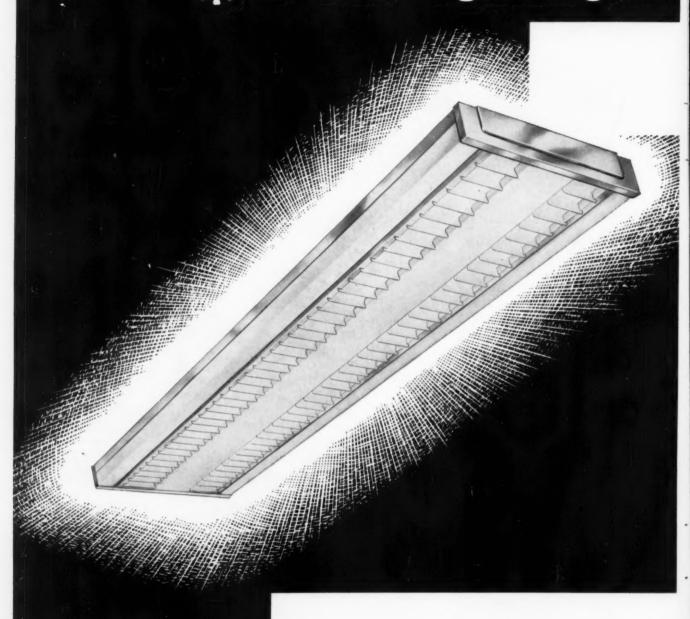
Streamlined Door Closer

The Smoothee, a new exposed closer for interior doors of wood or metal, is available with regular or hold-open arm, in three capacities. Said to permit wide opening of the door and to adapt to almost any trim, the closer comes with a painted birch finish. Its power can be increased by reversing the position of the arm shoe. LCN Closers, Inc., Princeton. Ill.

(More Products on page 268)



* a new lighting. .



Smithcraft fluorescent lighting units are installed in thousands of offices, factories, stores, schools and diversified interiors from coast to coast. Wherever good lighting is important, you'll find . . .

SMITHCRAFT - "AMERICA'S FINEST FLUORESCENT LIGHTING".

. . development from Smitheraft

Smitheraft TWOSOME

with brand new COMPOUND SHIELDING

45° x 45° SHIELDING IN A VERY SHALLOW UNIT WITH NO DARK CENTER STREAK

Quality, beauty, and comfort are combined in the new top value, low-cost Smithcraft TWOSOME. The new Smithcraft Compound Shielding permits the comfort benefits of $45^{\circ} \times 45^{\circ}$ shielding in a very shallow unit (only $3\frac{1}{2}$ " deep). And there is no dark center streak! This Compound Shielding is a center strip of extruded Polystyrene with white steel baffles on either side . . . very interesting and eye-pleasing. Bottom shielding and side shields are one complete assembly which hinges from either side or may be easily removed entirely.

For two or four 4' or 8' lamps, the TWOSOME may be also specified with Plastic Louvers, Ribbed Skytex Glass, or Flanged Polystyrene (impact resistant). Ask the man from Smithcraft to tell you about the TWOSOME for schools, offices, stores or similar installations.



Marry R. Welf, Jr., Philadelphia Representative, one of Smithcraft's nationwide seles organization.

the man from Smitheraft

He's a man who knows lighting "from the architectural standpoint", and can help you adapt effective lighting into the specific building designs on your boards. He talks "lighting" rather than "fixtures".

He's a good man to call when you're looking for time-saving, economical answers to your lighting problems. Ask him to consult with you or your lighting engineers on the TWOSOME, or any one of Smithcraft's complete line of lighting units.

Smitheraft
L | G | H | T | N | G
CHELSEA 50. MASSACHUSETTS

	EASE ATTACH TO YOUR B			1
	NAME			
	TITLE	co		
	ADDRESS	CITY	STATE	
	Please send me the month! I can keep in touch with th	y publication, "Light e latest trends in lig	Side of the News",	so that
0	Please send me the "TWOSO	ME" Folder and cati	alog sheets,	
	Please send me the comp	ete SMITHCRAFT C	ATALOG, containing	data on



Plastic Wall Covering

Carefully avoiding the pitfalls of imitating natural materials, a new wall covering manufactured from Monsanto's Teraise plastic takes advantage of plastic's inherent color and texture to form a matte finished wall surface patterned in a subtle tonal "stripe" without repeats or obvious joints. Because both texture and color are uniform throughout its thickness, the material is durable and can be scrubbed — or even scoured with steel wool. It is applied to the walls directly from 12 in. wide continuous rolls with a water-soluble adhesive. The Hamilton Co., 4239 Lindell Blvd., St. Louis, Mo.



Efficient Ventilating Fans

According to the manufacturer, the redesigned line of Kitchen-Aire ventilating fans has been given up to 30 per cent more efficiency by doubling the number of vanes on the impeller and using a third larger motor. The new line includes the single vent KA-155, rated at 550 cfm, and the multiple vent KA-170, rated at 1100 cfm. Although both ventilators are wall models, they can easily be converted for roof installation. Both come equipped with a springloaded damper, and a thermal overload switch. Stewart Industries, Inc., 320 E. St. Joseph St., Indianapolis, Ind.

(More Products on page 272)



Recommended by leading sprinkler system manufacturers and approved by Underwriters' Laboratories, Inc. Will not melt out, pull out, rust out or vibrate loose. The Red Head drills its way into concrete in seconds and stays there! No explosive charges or expensive drills needed. Installed it's less expensive than any other type concrete fastener. We can demonstrate this at your job site. Write today for your descriptive, illustrated catalog and free sample



PHILLIPS DRILL COMPANY, MICHIGAN CITY 3, INDIANA

For a busy Detroit Department Store ...

what in the world but MICARTA® can endure traffic so well?

Installation-

J. L. Hudson Department Store, Detroit, Michigan

Architect-

Victor G. Gruen

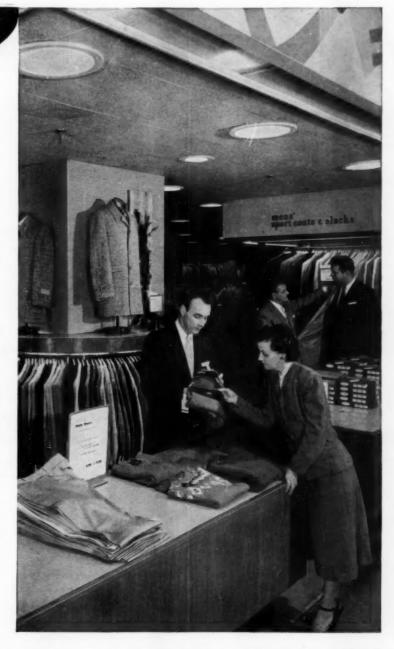
Problem-

To provide exceptionally smooth, durable and attractive sales-counter surfaces for a busy department store

Solution-

MICARTA tan "Irish linen"

Everyone knows there are many different sales-counter surfacing materials. Some are attractive, some durable, others economical. But what in the world but MICARTA combines all these features so well? Architect Victor Gruen thought MICARTA was the answer for the surfaces in J. L. Hudson's busy store. J. L. Hudson's agreed. And MICARTA's been rendering Herculean service ever since.



MICARTA can perform similar services for you, too. Architects and decorators can specify it with confidence for any horizontal or vertical surface that must be attractive (87 decorator colors, patterns and wood grains to choose from), durable (welcomes abuse!) and economical (lasts years and years!) Use it for bar, tables, and counter tops, wall paneling, stairways and desks. It's maintenance free, too!

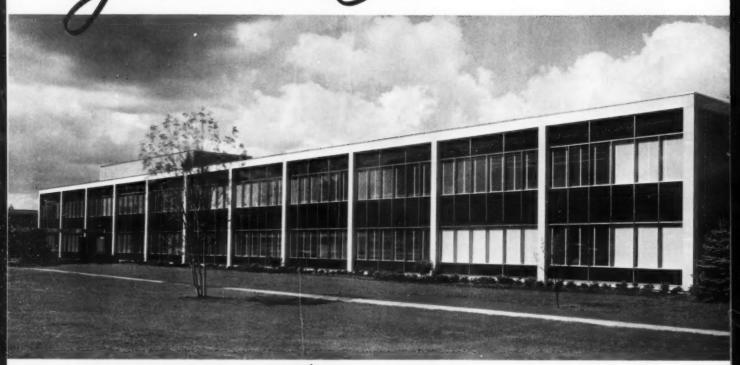
Westinghouse MICARTA

Distributed By United States Plywood Corporation

Send for your free 22-page Architects' Reference Manual today. Just clip out and mail this coupon . . . J-06652

United State	s Plywood Corporation	A.R6-57
P. O. Bex 1:	26, New York 46, N. Y.	
Pleas	se send me your 22-page color	Architects*
Refer	rence Manual.	
Name		
Firm		
Address		

NOW...A COMPLETE Glass-clad CURTAIN-WALL



THE COMPLETE Pittsburgh system of curtain-wall construction is shown in this new building housing the National Carbon Company's Research Laboratory at Parma, Ohio. This system effectively utilized Spandrellet and Pittco 82-X with Pittsburgh's Solex® Heat-Absorbing, Glare-Reducing Plate Glass. Architects: Skidmore, Owings & Merrill, New York City; Contractor: Gilmore-Olsen Company, Cleveland.



THE COLOR and distinctive qualities of SPANDRELITE may also be part of any architectural scheme involving other types of framing. This view of the Northeast Junior High School in Minneapolis, Minn., fully demonstrates the value of SPANDRELITE in such architectural plans. Architects: Thorshov and Cerny, Inc., Minneapolis, Minn.; Contractor: Watson Construction Co., Minneapolis, Minn.



SYSTEM FROM ONE SOURCE!

PITTSBURGH PLATE GLASS COMPANY is proud to announce the availability, for the first time, of a complete system of glass-clad curtainwall construction through the combination of its recently developed PITTCO® 82-X metal framing and colorful Spandrelite®—the heatstrengthened glass with ceramic color fused to the back.

Pritto 82-X offers an integrated system of curtain-wall framing. Originally designed to meet the requirements of the National Carbon Company's Research Laboratory in Parma, Ohio, it has since been successfully used on other structures—both large and small.

Other notable buildings using Spandrelite and Pittco 82-X bar framing members . . . now under construction or recently completed

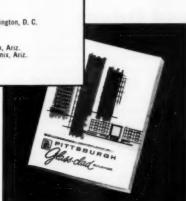
New Orleans Public Library New Orleans, La. Architects: Gurtis and Davis, New Orleans, La. Contractor: R. P. Farnsworth & Co., New Orleans, La.

Louisiana State Library
Baton Rouge, La.
Architects: Desmond and Davis, Hammond, La.
Associates: Burk, Lebreton and Lamantia, New Orleans, La.
Contractor: George Caldwell Company, Inc., Baton Rouge, La.

D. J. Kaufman, Inc., Men's Furnishings Washington, D. C. Architect: David Baker, Washington, D. C. Contractor: William P. Lipscomb Co., Inc., Washington, D. C.

Motorola Electronics Facilities
Phoenix, Ariz.
Architects: E. L. Varney and Associates, Phoenix, Ariz.
Contractor: T. G. K. Construction Co., Inc., Phoenix, Ariz.

Write today for our FREE full-color book



Spandrelite has met with widespread approval on the part of architects all over the country. For it helps to give added character to their creative designs. It is *strong*, withstanding impact and wide temperature variations. It is *durable*, providing the timeless properties of glass, with color that is both uniform and non-fading. It resists weathering and corrosion, is non-porous, non-absorbent. And Spandrelite is exceptionally economical . . . may be installed in the same manner as ordinary glass and is easily cleaned.

Architects have a selection of two finishes— Twill and Polished—and 16 standard colors, as well as a wide range of custom colors—from pastels to chartones. Spandrelite is available in sizes up to 72" x 144".

For complete information on Pittsburgh's glass-clad curtain-wall systems, fill in and return the coupon. Moreover, our Architectural Representatives in your locality are anxious to help you in every way possible with any problems of curtain-wall construction. Consult with them at any time.

Pittsburgh Plate Glass Company Room 7250, 632 Fort Duquesne Blvd. Pittsburgh 22, Pa.

Without obligation, please send me a copy of your full-color book entitled "Pittsburgh Glass-Clad Buildings."

Name	,		 	 	 	
Addres						

ity State

PITTSBURGH

Glass-clad CURTAIN-WALL SYSTEMS

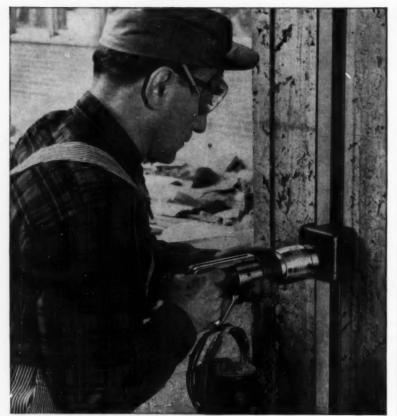


PAINTS . GLASS . CHEMICALS . BRUSHES . PLASTICS . FIBER GLASS

PITTSBURGH PLATE GLASS COMPANY

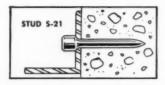
IN CANADA: CANADIAN PITTSBURGH INDUSTRIES LIMITED

Just one of 101 Stud Driver uses!



No outside power source required -

Fasten angle iron to concrete or steel in <u>seconds</u> with the Remington Stud Driver



Recommended Stud for application pictured above — ¼" Remington S-21 Stud with 22 caliber Power Load. Stud sets arrow-straight, iron is anchored permanently. Eliminates pre-drilling—no lost time.

Remington,



STUD DRIVER Just a squeeze of the trigger anchors structural angle to concrete—without pre-drilling! This cartridge-powered fastening tool sets either ½" or ¾" diameter studs in steel or concrete . . . up to 6 per minute, either size. Over 40 Remington Studs to choose from, plus 22 and 32 caliber Power Loads scientifically graded to furnish exact power you need. Barrel change-over takes only 90 seconds right on the job. Take the tool anywhere, use it anywhere for light, medium or heavy-duty work. Most versatile fastening tool available!

SAVE TIME, CUT COSTS with this modern construction tool. Clip coupon for free booklet that shows how and where to use the Stud Driver.

Industrial Sales Division, Dept. AR-6 Remington Arms Company, Inc. Bridgeport 2, Conn.

Please send me your free booklet which shows how I can speed the job and save with the Stud Driver.

Name	Position
Firm	
Address	
City	State

PRODUCT REPORTS

Packaged Gas Chimney

The Air-Jet "Style G" chimney, packaged complete with dual wall smoke pipe and special top housing, is designed for use with gas fuels but can be converted for use with coal and oil heating systems. Of lightweight, all metal construction, the Style G will be available with a choice of five designs in eight different models and four smoke pipe sizes. General Products Company, Inc., Fredericksburg, Va.



Fiber Glass Drinking Fountain

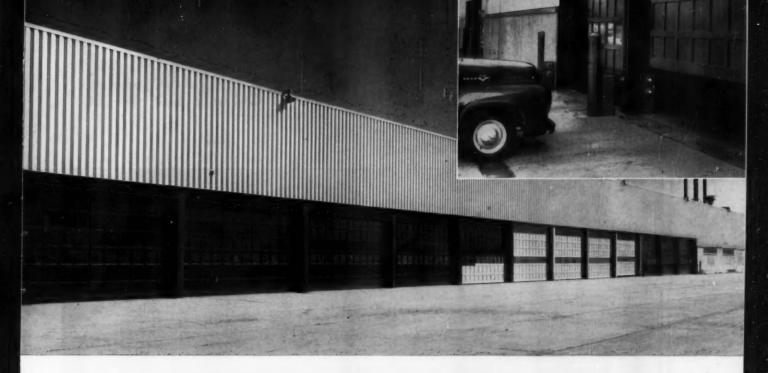
A new wall-hung drinking fountain with a rectangular fiber glass bowl and backing comes in white and five permanently bonded colors. The plastic material was chosen both for its durability and because its light weight affords easier installation. Lever handle and fountain head are in chrome. Haws Drinking Faucet Co., Fourth and Page Sls., Berkeley 10, Calif.



Slotted Steel Angle

The Handy Angle, a slotted angle made from bronze-lacquered cold rolled steel, features an anchor plate which is said to give rigidity to all structures and eliminate corner bracing. Square necked bolts with mushroom heads provide smooth, snag-free surfaces, and a glazing strip available in both single and double sizes permits insertion of glass, hardboard, etc. when the angles are used for partitions. Handy Angle Div., The Lug-All Co., Haverford, Pa.

(More Products on page 276)



FORD MOTOR COMPANY'S NEW LINCOLN ASSEMBLY PLANT USES 38 LARGE CRAWFORD MARVEL-LIFT INDUSTRIAL DOORS—with remote control or automatic control by the vehicles using them

JOB DATA

Client: Lincoln Division, Ford Motor Company

PROJECT

Lincoln Division Final Assembly, Body Painting and Finishing Plant, Novi, Michigan.

ARCHITECTS & ENGINEERS

Smith-Hinchman & Grylls, Inc., Detroit.

CONTRACTOR

W. E. Wood Company, Detroit.



crawford doors
sold and installed by
Crawford Door Sales Company
of Detroit.
L. G. Stedman, Jr.,
Sales Manager

The new Lincoln Assembly Plant at Novi, Michigan covers approximately 27 acres and has a maximum height of 60 feet. Construction is precast concrete panels and aluminum panels clipped to structural steel framing members. A total of 38 Crawford Marvel-Lift Industrial Doors are used, all with quarter-inch clear wire glass in Section 3 and with rubber astragal on the bottom rail. All doors are equipped with operators. The twelve doors shown above are 24'0" x 14'0" and are on the loading dock which accommodates all incoming truck-delivered materials. These are operated by remote controls.

Sixteen other doors are automatically controlled by the vehicles using them. Inbound vehicles pass over a rubber treadle in the concrete apron actuating an electric operator which opens the door; the door remains full open while the vehicle breaks and then clears an electric eye immediately inside the door opening; an adjustable timing device then closes the door. A vehicle following immediately automatically causes the door to hold full open until it also has cleared. Outbound vehicles reverse this process. Doors are equipped for chain hoist operation in case of power failure.

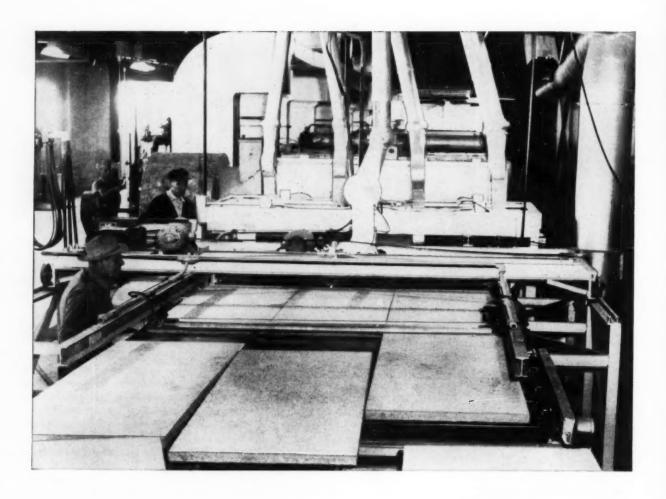
If you have a door project or problem we'll welcome your inquiry and it will get quick, intelligent attention. Architects, write for a complete file of Crawford literature. Crawford Door Company, 204-20263 Hoover Road, Detroit 5, Michigan.

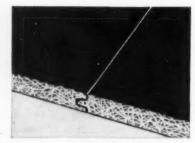
Crawford Door Company has plants in 10 cities in the U. S.; warehouses in 110 cities; Sales and Service everywhere. In Canada, F. Fentiman & Sons, Ltd., Ottawa, Ontario.

CRAWFORD MARVEL-LIFT INDUSTRIAL DOORS

Wood and Steel . . . All types of control including full automatic . . . for all types of industrial buildings

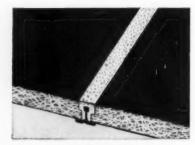
Tectum's Quality, Exclusive Features and





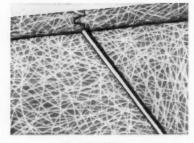
Tongue and Groove Joints

After the continuous slab of Tectum is sawed into standard widths and lengths, tongue and groove edges are machined into both sides of the plank and into the ends of standard tile. T & G edges assure strong, tight joints with improved seal.



Rabbeted Edges

Tile, for use on bulb-tee sub-purlins, has rabbeted edges as shown above. This Tectum feature allows ample room around the bulb-tee and full resistance to uplift is assured. Mechanical clips are unnecessary.



Beveled Edges

No details are neglected in the effort to make Tectum superior in composition, structural strength, functional utility and appearance. Where sides are T & G, exposed edges are beveled 45°. The exposed joint gives an attractive finished effect.

Performance Record Assure Extra Value

Tectum's rapid growth into one of the leading suppliers of roof deck and sidewall material has been accomplished within five years. This quality label has been earned by performance in the field. At Tectum there is no compromise with quality and as a quality material there is no equal. Tectum's completely automated manufacture, exclusive in its field, assures a quality product and guarantees uniform structural strength, uniform insulating and acoustical values and the finest appearance. Its combination of long, tough wood fibers and insoluble hydraulic cement binder produces a product of exceptional stability and secondary strength. Its natural, textured good looks are a decorator's delight with a natural affinity for other materials. A quick look at the other bonus features shown below illustrate why Tectum is a specification for long-lived satisfaction . . . why, after all other materials are considered, Tectum is truly an outstanding roof deck or sidewall value.

Acoustical

Up to .85 NRC

Structural

Withstands roof loading up to 200 psf

Insulating

Meets or exceeds normal requirements. "U" value .20 to .15

Noncombustible

So rated by Underwriters' Laboratories, Inc.

Workable as Wood

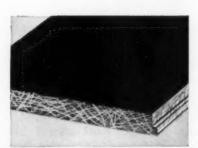
No special tools required

Lightweight

Saves on structural steel

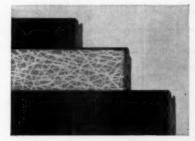
Resists Termites, Fungus, Rot

Proven by laboratory and field tests



15 Lb. Felt Backing

The topside of Tectum has a ply of roofing felt applied at the factory. This cap sheet is an excellent protection against staining prior to roofing. A perfect base for built-up roofing, it resists the elements and reduces sound transmission—a truly bonus feature.



Custom Lengths To Specified Spans

Continuous process means lengths engineered to fit the job. It often eliminates need for expensive hand-cutting on the job for Tectum may be ordered in almost any length you need. Flexibility of design is a tremendous advantage and convenience to the Architect and Designer. Tectum adapts simply and without added cost to your specific plans.



Tectum CORPORATION

106 SOUTH SIXTH STREET, NEWARK, OHIO
Branch offices in Columbus, Philadelphia, Atlanta, Chicago,
Dallas, Beverly Hills, and Seattle, with distributors in principal cities.

PRODUCT REPORTS



Curtain Wall Framing System

A new aluminum bar framing system makes it possible to frame wall sections without the multiple joints, seams and exposed fastenings found in conventional curtain wall construction. Based on designs long used for E. K. Geyser's aluminum bar windows, the curtain wall system features slender (1½ in. wide) vertical and horizontal members which give a clean, trim appearance to the wall. Inconspicuous horizontal expansion joints are incorporated in each horizontal bar at 16 to 20 ft intervals. Openings may be filled with Geyser's projecting-

type ventilators, or metal panels as well as the porcelain enamel panels and standard glazing used in Skidmore, Owings and Merrill's design for the Wyeth Laboratories shown at left. E. K. Geyser Co., 915 McArdle Rdwy, Pittsburgh 3, Pa.



Scored Floor Tile

Scored Tile, a 4½ inch square glazed interior tile, has straight grooves cut into the surface to combine the flexibility of small unit design with the economy and easy installation of larger self-spacing units. As the tiles are laid, the cement grout flows into the grooves as well as the surrounding joints, giving the small grooved sections the appearance of individual tiles. The tiles may be combined with other scored or unscored crystalline glazed tiles in various colors to form a wide variety of patterns. American-Olean Tile Co., Lansdale, Pa.



Rubber Stair Treads

Robbins Ezy-Clean rubber stair treads come with round or square-nose edging molded to fit over the step in one piece, and a skid-proof diamond tread on the walking surface. Available in widths of 9, 12, 15 and 18 inches, lengths of 3, 4, 5 and 6 ft, and six colors, the treads are designed with a ½ in. thickness at the heaviest wearing point tapering to ½ in. at the rear to match standard rubber tile on stair landings. Slabs for matching risers are 36 by 36 by ½ inches. Robbins Floor Products, Inc., Tuscumbia, Ala.

(More Products on page 280)

12 TIMES NEWER!



- 1. Beautiful, Modern Design
- 2. New, Improved Cooling Method
- 3. Completely Concealed Plumbing
- ... and 9 other ADVANCED exclusives that make this the ...

most modern of office & plant coolers—Yet priced the same!

AVAILABLE IN COLOR

Write for literature

WATER COOLERS DRINKING FOUNTAINS FILTER/PURIFIERS



Glen Riddle, Pa.

DIVISIONS & BRANCHES
IN ALL MAJOR CITIES
also TELKEE SYSTEMS

NEW! For Effective Lighting of High Mounting Areas...

HOLOPHANE HIBAY* Reflector For Mercury Vapor Lamps



No. 640

Holophane engineers, authorities in the development of lighting for industrial interiors, present another important contribution in this field—a new HIBAY Reflector... Designed for 400 Watt Mercury-vapor lamps... This unit consists of only two parts: (1) ventilated socket yoke; (2) smooth prismatic reflector with sealed metal cover. This simplified construction permits easy installation and economical maintenance. Reflector surface is kept clean by upward draft action induced by open design. Exposed socket assembly assures rated lamp life. Light source is deep-shielded, eliminating glare.

Write for complete engineering data on industrial lighting today.

HOLOPHANE

COMPANY, INC. • Lighting Authorities Since 1898 342 Madison Ave., New York 17, N.Y.

THE HOLOPHANE CO., LTB., 418 KIPLING AVE. SO., TORONTO 14, ONTARIO



Especially
Recommended
for:
Steel Mills
Foundries
Power Plants
Paper Mills
Machine Shops
Hangars
Armories
Sports Arenas
Field Houses
Gymnasiums

The name HOLOPHANE is your Surest Guide to LIGHTING QUALITY

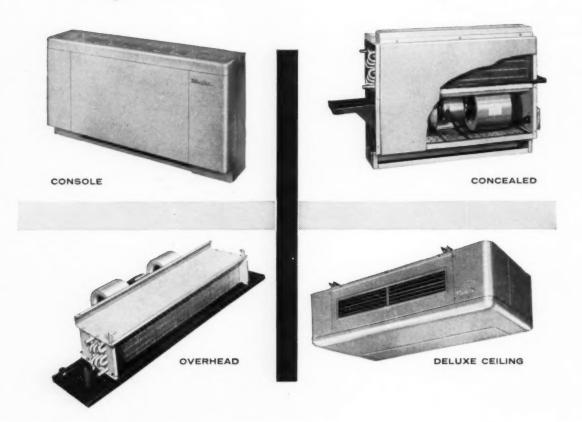
Every Holophane product is carefully and individually pressed on specialized equipment. Only by this painstaking process can we make prismatic forms accurate enough to direct light precisely where it is needed. Holophane products provide the basis for customengineered lighting systems, specifically designed for each area. To be sure of quality look for the name "HOLOPHANE" impressed on each piece.





For Better Lighting ... Be Specific

Why those who want the finest in



modine Airditioners

Popular fan-coil units for cooling with chilled water, heating with hot water—from a central source. For year-round air conditioning in multi-room installations. Offered in console, ceiling and concealed overhead and in-the-wall types. Four sizes range from 2/3 to 2 tons of refrigeration. Ask for Bulletin 757.



Thodine CABINET UNITS

An extremely versatile line of heating and ventilating units providing quiet, positive distribution of heated air with or without ductwork. Models for cooling with chilled water. Seven distinct enclosure types, plus a variety of accessories, permit matching practically any installation or performance requirement. Capacities from 120 to 640 Edr. Write for Catalog 557.

heating and air conditioning say ...

make mine Modine

A MONG building professionals and owners, the high quality of Modine heating and air conditioning equipment has long been recognized. Careful examination proves it to be a tangible value which benefits those who specify, install and use Modine products. This quality is a direct result of a company policy which is briefly expressed as follows—

"Modine products, while not premium-priced, are produced to meet those high standards of mechanical construction and performance excellence which long experience has proved essential to complete user satisfaction."



Beautifully styled units feature light weight for easy, low-cost installation . . . stainless steel burners and stainless or aluminized steel heat exchangers for longer life . . . advanced engineering design for outstanding heating performance. Eight sizes from 25,000 to 310,000 Btu. Catalog 656-A.





Therine STEAM AND HOT WATER UNIT HEATERS

Widest line available — includes horizontal and vertical delivery types plus Power-Throw models for use where extremely long "throw" is needed. All types are available in HCR models designed for application where severe internal corrosion is a problem. Bulletin 157.



or for straight heating. Stainless steel burner and heat exchanger resist rust and corrosion caused by moisture-laden air or condensation. Five sizes from 88,000 to 213,000 Btu. Bulletin 855.



Modine CONVECTORS

Attractive appearance and sturdy construction characterize the Modine line of convector radiation. Offered in 30 types and 8,000 sizes for every building need. Choice of standard or heavy-gauge enclosures. Catalog 257.

UR-1353



1510 DeKoven Ave., Racine, Wis. In Canada: Sarco, Ltd., Toronto

PRODUCT REPORTS

Corrosion Preventative Coating

Profilm, a silicate modified coating designed for use where corrosive elements are a source of coating failure and excessive maintenance costs, can be applied to virtually any coatable surface including metal, masonry, wood, and asbestos. Because of its essentially inert composition, it is said to provide a uniform, continuous and low porosity film which lends resistance to a wide variety of chemical elements. The coating is available in colors as well as black.

white, clear and metallics in both baking and air-drying grades. Applied by conventional spray equipment, it will dry to the touch on most applications in a few minutes, making it possible to apply successive films without removing scaffolding. Baking grades are claimed to similarly cure on short cycles to speed production finishing. Allied Porcenell, Inc., Waukegan, Ill.

Outdoor Temperature Controls

Mounted on the outside of the house, Vari-Flow automatic temperature controls regulate inside temperatures by reacting to temperature changes out of doors. The outdoor control consists of a shielded fluid-filled bulb which reports temperature drop or rise to a master control box. The central control panel in turn balances the heating system by synchronizing outside temperatures with those recorded by a similar fluid-filled bulb in the hot water supply line that feeds the heating system. Dunham-Bush, Inc., West Hartford 10, Conn.



Custom-Styled Display Cases

The new Columbus Fifth Arenue show case line features open and glass-enclosed displays which can be styled in any size or shape to conform with the store interior. A variety of panel finishes in wood grains, plastics and metals are offered with one-piece frames of stainless steel, nickel-silver, or extruded bronze or aluminum. Enclosed models have adjustable glass shelves on transparent plastic shelf rests, and concealed fluorescent lights operated by a toe switch. The Columbus Show Case Co., 846 W. Fifth Ave., Columbus 8, Ohio.



Stage Lighting System

The C-I Theatron, an all electronic control system for stage lighting is recommended for high school, university and community theatre use. The compact two-scene preset console provides for proportional dimming and cross fading with thirty 2000W electronic dimmers, or 22 of 1000W capacity and 8 of 4000W capacity. A wall-mounted 72-circuit patch panel is included, as well as provisions for three non-dim circuits. A throw-over switch makes it possible for some of the stage dimmers to serve as house light dimmers also. Century Lighting Inc., 521 W. 43rd St., New York 36, N. Y.

(More Products on page 284)

America's New Schools Can Have Strong, Student-Safe, and Attractive Alumilited * Aluminum Entrances with

ALUMILINE CENTER PANEL DOORS

STRENGTH

- Horizontal multions reinforced and welded into place for greater strength.
- Heavy alumilited aluminum sheet glazed into center panel.
- Corners of doors completely welded with heavy machined reinforcements.

STUDENT SAFETY

- Student safety provided by extra protection of high strength center panel.
- Protects against injury from glass breakage should student's hands slip from panic crash bar.
- Tempered glass can be specified for the bottom glass light (kick area).

ATTRACTIVE DESIGN

- Mullions fabricated of same sections as door rails to present smooth, clean lines across the door, concealing panic crash bar.
- Alumitine Center Panel Doors available in narrow stile and wide stile construction.
- Aluminum sheet in center panel glazed in same plane as upper and lower glass openings to carry glass line throughout.



Alumiline Factory Prefabricated Narrow Stile Center Panel Doors. Note concealment of Panic Crash Bar.

Photo shows Alumiline Entrance of East Greenwich High School. Architects: Harkness, Albert, & Peter Geddes Associates, Providence, R. I.

For Alumiline
Center Panel details and further
information, and
catalogs describing Alumiline's
wide variety of
standard and custom architectural
aluminum products,
write to:



The ALUMILINE CORPORATION

Dept. R, Dunnell Lane, Pawtucket, R. I. "Trade Name Aluminum Company of America



AIRCOUSTAT* Sound Traps eliminate air conditioning noise at 50% less cost

Acoustical Performance Guaranteed. Easy to Install. Pre-Engineered — No Design or Layout Headaches.

Revolutionary AIRCOUSTAT Sound Traps require no special tools for installation...reduce your labor costs and lower your installation time. Units fit any size or shape of duct. If AIRCOUSTAT fits geometrically, it fits acoustically.

AIRCOUSTAT is the most efficient method of sound-deadening you can provide your customers. A 7-foot AIRCOUSTAT unit suppresses as much sound as 100 feet of ordinary duct lining. AIRCOUSTAT eliminates all frequencies in the entire



Engineered Products Sold with Service

audio-frequency range, silences entire systems or selected outlets. Flow resistance and pressure drop are lower. 4 series cover applications ranging from general offices to recording studios.

Discover how AIRCOUSTAT Sound Traps can save you time and money . . . create greater customer satisfaction.

*Koppers Trade Mark

MAIL THIS COUPON TODAY

KOPPERS COMPANY, INC., Metal Products Div., Industrial Sound Control Dept., 6606 Scott St., Baltimore 3, Md. Gentlemen: Please send me a free copy of your booklet on Aircoustat Sound Traps.

Name.....Title....

Company.....

Address....Zone...State...

TRUSCON FERROBORD®



Truscon Ferrobord Steeldeck is being placed in position, then welded directly to Truscon "O-T" Steel Joists at Pick-N-Pay Division of Cook Coffee Company, Maple Heights, Ohio. B & B Construction Company, Youngstown, Ohio, architects and contractors,

REPUBLIC



World's Widest Range of Standard Steels

STEELDECK



TRUSCON "O-T"® STEEL JOISTS offer predictable and dependable loadbearing capacity. Every Truscon "O-T" Joist—shortspan series—is quality protected. Each is backed by the Steel Joist Institute Seal of Approval. Be safe . . . avoid inferior quality. Specify approved Truscon "O-T" Steel Joists. Send coupon for design data.



THE BEST COSTS LESS INSTALLED. That's the story of Republic ELECTRUNITE® E.M.T.—the original lightweight, rigid steel electrical raceway. "INCH-MARKED"® and "GUIDE-LINED" for accurate measuring and bending. Threadless—every connection is a union—no long lines to turn. Approved by National Electrical Code for exposed, concealed and concrete installation. Sold through electrical distributors everywhere.



NEW BUILDINGS MEAN PARKING. Truscon Steel Curb Bars offer long-time protection against damage to parking dividers, islands, curbs. Quickly placed in the form, they grip concrete rigidly, take the bumps, protect edges and corners. It's low-cost insurance for all vulnerable concrete areas. Send coupon for details and specifications.

STEEL

and Steel Products

Gets your building under roof fast.

Ferrobord is long. Ferrobord is light. It's the steel decking that roofs large areas quickly—either flat, pitched or curved.

Long lengths—up to 32 feet—span three or more purlin spacings. Its light weight makes it easy to handle, easy to place. Erection is from above. Each member is welded or clipped to supporting Truscon "O-T" Steel Joists.

Load-bearing capacity is predictable and dependable. Performance can be calculated by means of accepted engineering principles. Each unit firmly *interlocks* with adjoining unit along its entire length. Result: maximum in lateral distribution of concentrated loadings. The completed deck may be considered as a continuous beam rather than a simply supported beam, with a consequent 25% increase in carrying capacity.

When laid, Ferrobord's smooth surface is ready for insulation, built-up roofing and waterproofing. You have a roof that is light, strong, fire-resistant. Send coupon below for design information.

REPUBLIC STEEL COR Dept. C-3266 3110 East 45th Stree	et, Cleveland 27, Ohio
Please send me more spec	cifications describing:
☐ Truscon Ferrobord Steeldeck	☐ Truscon "O-T" Steel
☐ Truscon Steel Curb Bars	Republic ELECTRUNITE E.M.T.
Name	Title
Firm	
Address	
City	ZoneState

Now...all three from Hamilton!







home arts furniture

—everything from Stout sewing tables to built-in oven kitchen cabinets for modern homemaking instruction centers.

Three new lines of school equipment handsomely illustrated, fully described, with sample assemblies, floor plans, and a wealth of other information—from an old hand in the school equipment field. That's what you get in these three all-new Hamilton catalogs. Write for your free copies today—Hamilton Manufacturing Company, Two Rivers, Wisconsin.

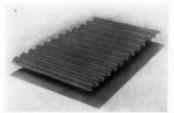


SPECIALIZED SCHOOL EQUIPMENT

PRODUCT REPORTS

Evaporative-Type Humidifier

The Armstrong Humid-i-maker for buildings with hot water, steam or warm air heating systems operates by circulating air across the surface of heated water and into a central distribution duct. The unit consists of a closed stainless steel tank containing submerged copper heating coils and a water-level control; a blower to circulate the air; and a humidistat to control the blower and hot water pump. Its capacity is sufficient to handle up to 33,000 cu. ft of space. Armstrong Machine Works, Three Rivers, Mich.



Translucent Acoustical Element

Soundsheet, a new plastic laminate developed by acoustical consultants Bolt, Baranek and Newman for use in over-all lighting systems, successfully combines acoustical and light diffusing properties. The material's light transmission approximates that of most illumination sheeting now used, and its noise reduction coefficient is 0.70 with a 10 inch cavity depth. Flat and corrugated sheets are available in standard widths. Contrex Co., Chelsea 50, Mass.



Acoustical Access Door

The new Milcor steel access door for acoustical tile ceilings is recessed into the frame the depth of a tile to permit a covering tile to finish flush with the surrounding tile surface, with no exterior frame. Only the continuous hinge shows when the door is closed. Made of heavy gage steel, the doors are available in three sizes — 12 by 12, 12 by 24, and 24 by 24 inches. Inland Steel Products Co., 4033-A W. Burnham St., Milwaukee, Wisc.



When every room is a separate heating zone, many of the problems that a conventional system can't touch are solved automatically . . . and with the SelecTemp heating system, they are solved economically. For example:

1. Tenant satisfaction is assured because occupants have independent control of room temperatures. They select the temperature they want.

2. Rooms are always comfortable, whether on the cold or warm side of the building, because the ever alert mechanism in each unit automatically adjusts for extra heat loss or gain, and supplies the right amount of heat needed at the right time and in the right place. Each unit takes care of its own room no matter how conditions may vary in other parts of the building.

3. Owners report substantial fuel savings because room-byroom control does away with overheating. Heat is not

wasted through open windows.

4. The SelecTemp heating system can be economically installed in either new or existing buildings. Operating costs are low. Money can also be saved by heating only the rooms in use. The temperature can be lowered in rooms temporarily unused-then when these rooms are needed, they can be quickly reheated.

For cooling. Individual unit cooling combined with Selec-Temp heating is the perfect combination for year 'round comfort, with room-by-room control of both heating and cooling.

Send for free literature. Iron Fireman will gladly send you a free booklet describing the SelecTemp heating system. Get all the facts-fill out the coupon below.

IRON FIREMAN.

Engineered HEATING AND COOLING

MORTON SALT COMPANY **CUTS FUEL COSTS 57%**

Manager of Wadsworth, Ohio office writes:

"Our former steam system was controlled by one master thermostat. We had room-heat fluctuations from 5 degrees to 25 degrees in the general office and in seven enclosed offices, resulting in absenteeism loss of 343½ working hours, because of illness due to colds. With SelecTemp heating during the season just ended we had absenteeism loss of only 75 hours.

The cost for heating in the 1954-1955 season was \$1,361.13. Our cost for SelecTemp heating in the colder, longer 1955-1955 season was \$36.25 or an actual savings of \$774.88. However, we have had some increases, is: Increased comfort, increased employee morale and increased attendance."

S. A. Carlson Office Manager

Small, compact units

Small, compact units
Only 18 inches high, the
SelecTemp units are recessed
in walls; take no floor space.
Each unit complete with its
own thermostat, air filter,
heat exchangeer and steam
driven fan. Steam is supplied by a low pressure
boiler, fired by oil, gas or
coal, or from district steam
lines. Units can be painted
to match walls.



IRON FIREMAN MANUFACTURING CO. 3342 West 106th Street, Cleveland, Ohio. (In Canada write to 80 Ward Street, Toronto)

Send SelecTemp specifications and full information.
 Arrange for brief demonstration of SelecTemp room unit, in actual operation, in our office.

Name		
Firm		
Address		
City	Zone State	



Union Oil Center, Los Angeles
Designed by Pereira & Luckman
Plumbing specified by C. W. Eccleston, Pereira & Luckman
Plumbing contracted by Howe Brothers
General contractor, Dell Webb

EXCLUSIVE ... by design

One exclusive feature after another has been planned into the Union Oil Company's brilliant new \$20,000,000 Headquarters Center. The unusual diamond shape of the main office building permits all executive and general offices to overlook open areas with a city view. The lobby floor will have a museum, display and public areas. A second building will contain a 550-seat auditorium and large cafeteria. Underground parking levels based on a "scissors" principle will accommodate 1500 automobiles. Completely air conditioned, the entire Center will be smog-free and cooled or heated according to the seasons. And, for the constant refreshment of all employees, Westinghouse Water Coolers will be installed.







The attractive appearance of the new Lima Flexi-Trol air conditioning line matches the "beautiful" job it does in meeting air deflection requirements for maximum comfort and efficiency.

Features include: adjustable face bars with positive friction to prevent accidental movement . . . heavy gauge steel frame, resistance welded . . . reinforced corners for added strength . . . quiet operation without rattling or whistling . . . double overlap opposed valves . . . permanent Lima rust-resisting finish in neutral tone. Can be repainted if desired.

Write today for literature and specifications on the new Lima Flexi-Trol Commercial Air Conditioning Line.



sold exclusively through heating wholesalers and manufacturers



OFFICE LITERATURE

(Continued from page 238)

Architects' Roof Insulation Manual

Includes technical information, detailed performance tables and complete specifications for the three types of *Celotex* roof insulation. *The Celotex Corp.*, 120 S. La Salle St., Chicago 3, Ill.*

Barcol OVERdoors (AIA 16-D)

Presents full information on Barcol OVERdoor line of residential, commercial and industrial overhead doors. Specifications, building requirements and special installations of the various models are illustrated with detail drawings. 16 pp. Barber-Colman Co., Dept. 5A, 1400 Rock St., Rockford, Ill.*

Electric Door Operators

Twelve-page catalog presents complete information on *Ridge* line of residential and industrial electric door operators and accessories. *Ridge Door Co., Drawer 913, Monmouth Junction, N. J.*

Color Glazed Brick (AIA 3-F-2)

Architects' reference folder contains listings and descriptions of complete line of Hanley burned-in duramic glazed brick, as well as dye-cut reproductions of actual bricks which demonstrate available colors and textures. Hanley Company, Inc., One Galeway Center, Pittsburgh 22, Pa.*

Modern Office Equipment

Catalog B illustrates and describes complete line of Cole office equipment. Prices are included. 72 pp. Cole Steel Equipment Co., Inc., 514 Madison Ave., New York 17, N. Y.

What You Should Know About Color

... in the Manufacture of Concrete Building Products includes a 4-page section containing 46 color chips which show the shades and ranges of color obtainable by proper mixing of pigment with gray or white cements. Another section summarizes specific pigment recommendations and tells how to predetermine final color. C. K. Williams & Co., 640 N. 13th St., Easton, Pa.

Playground Equipment (AIA 35-F-5)

Illustrated 36-page catalog gives complete descriptions of more than 280 different items of playground equipment, with prices. Jamison Mfg. Co., 8800 Mettler St., Los Angeles 3, Calif.

(More Literature on page 292)



Norman Gas-Fired Schoolroom Heating and Ventilating System

In one complete package for the individual classroom, Norman engineers have designed everything needed to assure economical and healthful classroom comfort — automatically.

And, because the Norman gas-fired, forced air heating and ventilating system is specifically designed for modern schools, it offers important advantages for new school construction and expansion programs. No separate building or extra space is needed for a central heating plant. Simplifies expansion programs — just add another Norman unit for each additional classroom.

Mail the coupon today for complete details and specifications.







NORMAN COMPLETE PACKAGE PROVIDES:

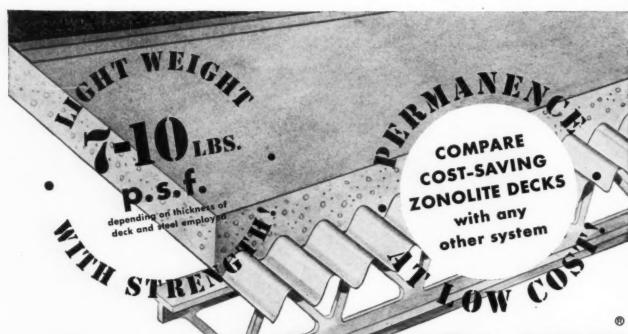
- Perimeter forced air distribution at proper angles for constant classroom comfort without draft or stale air pockets.
- Automatic operation cycles which include warm-up, daytime or occupied period, and nighttime period.
- Automatic ventilation with proper mixture of outdoor air and room air.

NORMAN COMPLETE PACKAGE INCLUDES:

- Automatic gas-fired, forced air central heating furnace and enclosure, pre-wired and fire-tested at factory.
- Standard length Util-i-Duct sections of sturdy furniture gauge steel, shipped ready to install. Each section includes quality adjustable perimeter diffuser . . . aluminum trim for front top edge . . . resilient gasket for back top edge. (Filler and corner sections available.)
- Electrically controlled multi-blade air damper assembly for automatic inside and outside air modulation.
- Rugged aluminum outside weather grilles and mounting frames for fresh air and combustion air openings.
- Automatic controls for complete modulation of heating and ventilation air requirements.

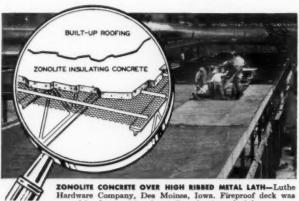
OUTSIDE AIR ONLY USED FOR COMBUSTION

	COLUMN SILE	osep ron composition
-	NORMAN PRODUCTS CO. 1152 Chesapeake Ave., Colum	abus 12, Ohio
	Please send complete information Norman Gas-Fired Schoolroom He	
	NAME	
	FIRM NAME	
	ADDRESS	
	CITY	STATE



Here's How ZONOLITE

Makes possible STEEL-SAVING,



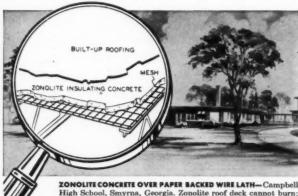
poured in place, cutting days off production schedule. TIME SAVER! COST SAVER!



pre-cast

ZONATILE'

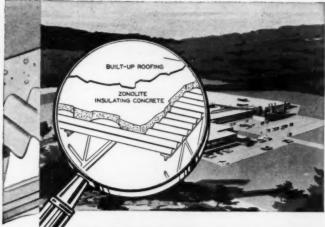
Here's the new, short-span concrete slab one man can handle with ease. Zonatile saws like wood. Goes into place fast-in any weather. Reduces dead weight. Cuts time and costs.



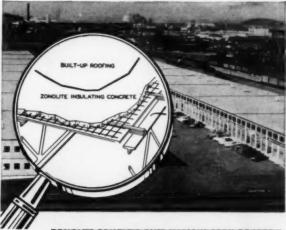
ZONOLITE CONCRETE OVER PAPER BACKED WIRE LATH-Campbell High School, Smyrna, Georgia. Zonolite roof deck cannot burn; provides the high degree of fire safety required. Arch.: Bothwell and Nash.



EASY WAY TO PROVIDE SUPER-INSULATION! ZONOLITE INSULATING CONCRETE POURED OVER STRUCTURAL CONCRETE DECK—Florsheim Shoe Company office building, Chicago. Used as roof fill, ZONOLITE provides added valuable insulation, monolithic, no heat leaks. Arch.: Shaw, Metz & Dolio.



Eberhard Faber Pencil Co., Wilkes-Barre, Penn. Another big structure with a permanent monolithic roof that weighs less, is strong, insulating, fire-safe. Arch.: Eyerman-Hoban & Sincavage, A.I.A., Wilkes-Barre, Penn.



ZONOLITE CONCRETE OVER VARIOUS FORM BOARDS— Commission Row Produce Market, St. Louis, Missouri. 326,000 sq. ft. poured for this seamless, permanent roof deck. High insulating value. Arch.: L. Roy Brown & Assoc., St. Louis.

...Adaptable to any Roof Design... WEIGHT-SAVING, COST-SAVING Roof Systems

With ALL the Extra Benefits of

- FIRE-SAFETY
- INSULATION

- INSURANCE SAVINGS
- FASTER CONSTRUCTION
- PERMANENCE

Zonolite vermiculite Concrete is designed to meet any combination of requirements for any roof design—over formed steel, form board, metal lath, paper backed wire lath and structural concrete—with maximum benefits for architect, builder, and owner. Not only do Zonolite roof deck systems contribute lifetime benefits, but they are a sure way to solve immediate budgeting problems.

Network of Skilled Applicators All Over America to Help You!

Use this exclusive Zonolite service extra. Trained and highly skilled applicators are on call all over the country, qualified and ready to help you solve your roof problems quicker, more efficiently, at lower cost.

MAIL COUPON TODAY -

You can count on Zonolite vermiculite Concrete to provide:

- 1. Lightweight...low as 25 lbs. per cubic foot!
- 2. High insulation value...1" is equal to 12" to 16" of ordinary concrete!
- 3. 100% Fire Safety ... Zonolite Concrete is incombustible.
- 4. Permanent...good for the life of the building!
- Economical...as attested by its use in over half a billion board feet of roof and floor area!



SEND FOR THIS FREE BOOK!

Get the full details of many roof systems...including design data, section drawings, ratings and other valuable and helpful information FREE. There's no obligation, just mail the coupon, today.

ZONOLITE COMPANY, Dept. AR-67 135 S. La Salle St., Chicago 3, Ill.

Please send me your new booklet, CA-19, "Systems of Lightweight Roof And Floor Construction."

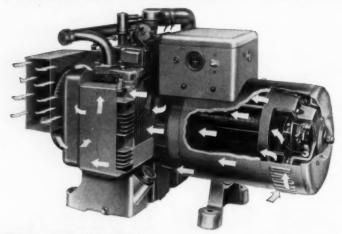
Name_______
Firm Name______
Address

City_____ Zone__ State____

☐ Architect ☐ Builder Other_____

HOW Vacutto- AIR-COOLING

SIMPLIFIES INSTALLATIONS OF ONAN ELECTRIC PLANTS





VENTILATES INSTALLATION AREA

Vacu-Flo cooling takes air from the room, through the electric plant, and expels it outside through a single duct. Eliminates fumes; keeps room filled with fresh air.



DUCT CARRIES EXHAUST LINE

On the Onan CW series of electric plants (7½ and 10KW), the exhaust pipe is carried through vent duct to the outside making only a single opening necessary.

Heated air expelled outside through single vent. Units can be enclosed or "buried"

Air-cooled Onan Electric Plants can now be installed in small, enclosed compartments; in isolated or underground rooms; or "buried" within a vehicle, far from the outside air. Previously impossible or difficult installations are now easy and practical with Onan Vacu-Flo cooling.

This exclusive system is a factory-equipped item, optional on any Onan air-cooled electric plant. A quiet-running, centrifugal blower in a specially-designed housing PULLS cooling air through the generator and over the engine . . . then EXPELS heated air through a duct to the outside.

The space required in a "buried" installation need be only a little larger than what the unit itself requires. Airintake and vent openings plus an exhaust line are all that are necessary.

On vehicles such as trailers, display vans, fire and rescue trucks, and concession wagons, Vacu-Flo cooling makes it possible to mount the Onan plant anywhere in the body where space is available. On pleasure and work boats, Vacu-Flo cooling makes below-deck installations of air-cooled electric plants practical . . cooling efficiently and quickly eliminating fumes from the area. Onan Electric Plants with Vacu-Flo

Onan Electric Plants with Vacu-Flo cooling operate more quietly than blowercooled models . . . an important added advantage in many installations.

Write for Special Vacu-Flo folder.



D. W. ONAN & SONS INC.

2665 University Avenue Southeast, Minneapolis 14, Minnesota

OFFICE LITERATURE

Condensed Silicone Catalog

CDS-97 briefly discusses more than 115 different applications of major silicone products, and lists specialized literature giving more detailed product information. 8 pp. Silicone Products Dept., General Electric Co., Waterford, N. Y.*

Gratings and Treads (AIA 14-R)

Bulletin 2527 presents descriptions on electroforged, riveted, rectangular, diagonal, "U" type and "T" interlocked grating and treads. Safe load tables and specification information are included. 28 pp. Grating Dept., Biaw-Knox Co., P. O. Box 1198, Pittsburgh 30, Pa.

Aluminum Window Installation

Twelve-page illustrated booklet on "The Proper Handling and Installation of Aluminum Windows in Commercial and Monumental Buildings" provides instructions on aluminum window care and installation, with detailed diagrams of installations in various types of openings. The Aluminum Window Manufacturers Assn., 75 West Sl., New York 6, N. Y.*

Horizontal Unit Heaters

Catalog 2557 gives performance data, wiring and piping diagrams, construction features and architects' specifications for complete line of horizontal unit heaters. Young Radiator Co., Racine, Wisc.*

Drafting Room Check-Up List

Covers all types of necessary equipment and supplies for the well-equipped drafting room, and offers specific suggestions for increasing drafting efficiency. Frederick Post Co., 3630 N. Avondale Ave., Chicago 18, Ill.

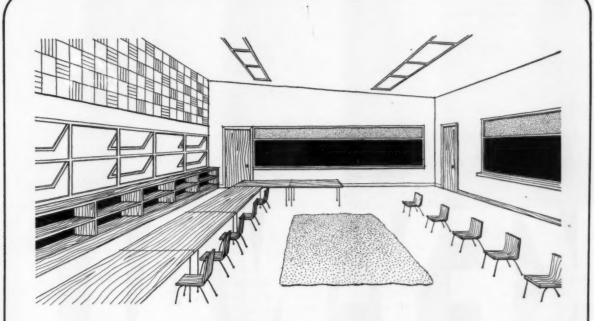
Unit Heater Handbook

Gives design, selection and estimating data on American Blower Unit Heaters for steam or Hot water. 44 pp. Also available is a folder on gas fired unit heaters. American Blower Div., American Standard, 39 West 39th St., New York 18, N. Y.*

Vicrtex VEF Reference File

Contains samples of Viertex VEF fabrics, with a suggested form for specifying the fabric as a wall covering, as well as hanging instructions and descriptions of its uses and advantages. L. E. Carpenter & Co., Inc., Empire State Bldg., New York 1, N. Y.*

(More Literature on page 296)



You'll Make Your Plans More Acceptable By Adding an <u>Engineered Color Study!</u>

THE importance of the effect of color environment on people is today recognized by practically everyone who owns or operates an industrial, commercial or service enterprise.

• That's why you can make your plans more acceptable to clients by including a detailed color program.

ciency, morale and well-being in many fields.

• Why not let us submit engineered color recommendations to go with your plans? These recommendations are based upon the principles of COLOR DYNAMICS®. This modern system of painting has demonstrated its ability to improve productive effi-

• We'll be glad to make such a detailed study without cost or obligation. Simply call your nearest Pittsburgh Plate Glass Company branch and arrange to have one of our color consultants see you at your convenience. Or mail this coupon.

For Additional information on COLOR DYNAMICS see Sweet's Architectural File, Section 14/PL



Engineered color studies based upon COLOR DYNAMICS, complete with suggested color samples, are bound in booklet form. Also included are recommendations for the correct types of coating to be used on every kind of material and construction.

- MAIL THIS COUPON TODAY --

Pittsburgh Plate Glass Company Paint Division, Dept. AR-67 Pittsburgh 22, Pa.

Gentleme

- Please have your representative provide us with further information about Pittsburgh's Free COLOR DYNAMICS engineering service for architects.
- Please send free copy of your booklet on COLOR DYNAMICS for __industry; __hospitals; __schools;

NAME

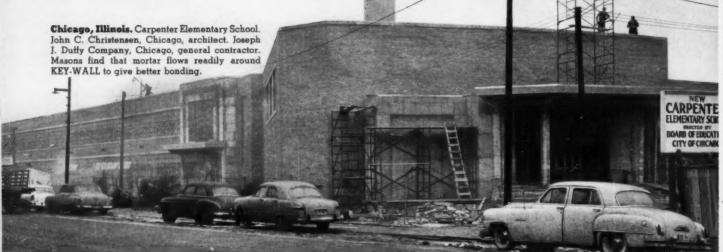
CITY_____COUNTY___STATE__



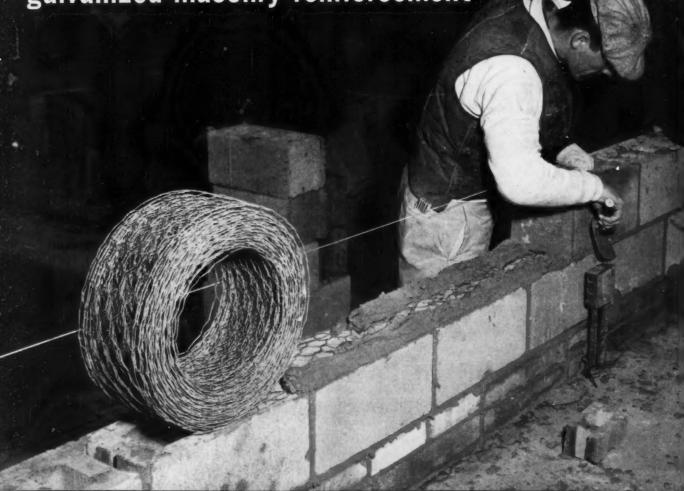
PITTSBURGH PAINTS

PITTSBURGH PLATE

IN CANADA: CANADIAN PITTSBURGH INDUSTRIES LIMITED



galvanized masonry reinforcement







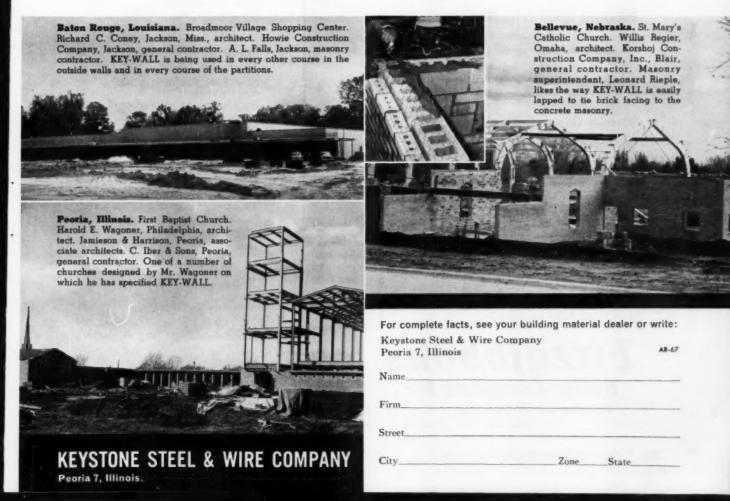
is adding strength to buildings everywhere

Revolutionary new type of masonry reinforcement gains wide acceptance from architects, builders and owners.

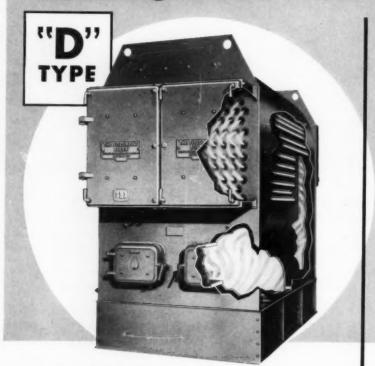
Few building products have achieved such wide acceptance in so short a time. Just look at the jobs where it is being used today. We think this wide preference is because KEY-WALL gives far greater value at lower cost.

What's more, men on the job really like KEY-WALL. They use it the way it's specified because it's easy to use. You get what you need, and pay for, even without close supervision.

Best of all, KEY-WALL research has developed important new facts about this masonry reinforcement that reduces shrinkage cracks and increases lateral strength. It reveals a new quality in reinforcement that can be important to you.



THE Fitzgibbons BOILER



Efficient Heat Transfer

Ample firebox volume permits any fuel to be burned efficiently. Unimpeded waterways provide rapid circulation and quick absorption of the heat from the fuel. Proper balance between firebox area and boiler tube surfaces assures full transfer of the available heat for highest operating efficiencies.

Strong Construction

Assembled from quality steel plate in accordance with ASME Code construction requirements by experienced boiler makers. Modern electric welding techniques and manufacturing methods followed by hydrostatic pressure test before shipment assures rugged strength and long life in every Fitzgibbons design.

Easy to Clean and Maintain

Quick access for cleaning and inspection of all heating surfaces is provided through ample gas and soot-tight doors. Large handhole openings permit water-side inspection. The Fitzgibbons "D" Type Boiler is a result of three-quarters of a century of experience in boiler making. For catalog data on this FITZGIBBONS Steel Boiler, write to the address below.

Fitzgibbons Boiler Company, Inc.

101 PARK AVENUE, NEW YORK 17, N. Y.
DEPT. 10



OFFICE LITERATURE

Telescoping Gym Seats

Sixteen page catalog includes all necessary data for design and selection of Safway gym seats, including dimensions, construction details and sample specifications. Safway Steel Products, Inc., 6234 W. State St., Milwaukee 13, Wisc.

Tile-Tex Floor Designs (AIA 23-G)

Six-page design brochure illustrates samples of colors and floor designs possible with *Tile-Tex* resilient floor tiles. *Tile-Tex* Div., *The Flintkole Co.*, 1232 McKinley Ave., Chicago Hts., Ill.*

Panelfab Panels and Doors

Two new four page folders include selection data and specifications for *Panelfab* laminated honeycomb core building panels and aluminum faced honeycomb core doors. *Panelfab Products, Inc., 2000* N. E. 146th St., North Miami, Fla.*

Sico System of Table Seating

Describes the conversion of multipurpose rooms into eating areas with Sico's portable table and bench combinations. Architects' specifications are included. Illustrated, 24 pp. Dept. KP, Sico Mfg. Co., Inc., 5215 Eden Ave. S., Minneapolis 24, Minn.*

Structural Weather Strip

Twenty-page catalog describes Inlock self-sealing structural weather strip. Includes section drawings, suggested applications, and photographs of actual installations. Inland Mfg. Div., General Motors Corp., Dayton 1, Ohio.

Guide to Painting Specifications

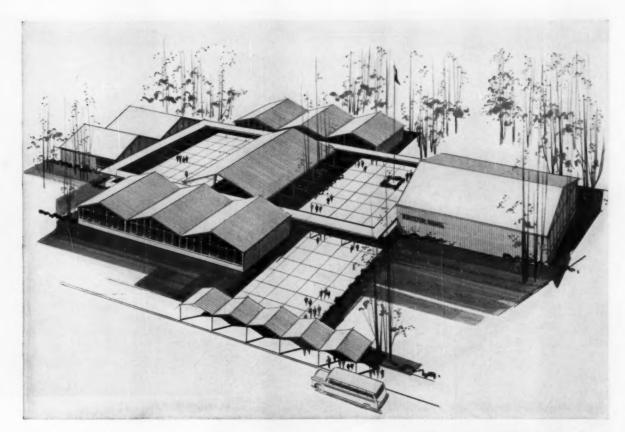
The official specification of the Painting and Decorating Contractors of America gives recommendations to the architect for drafting "scope of work and general conditions" provisions in painting specifications, followed by detailed specifications for "recommended," "deluxe," and "minimum" jobs. \$5. Painting & Decorating Contractors of America, 540 N. Michigan Ave., Chicago 11, Ill.

Literature Requested

Mr. Delbert R. Crocker, Architect, 603 West Goodwin Ave., Victoria, Texas.

Mr. D. H. Grootenboer, AIA, 444 William St., Williamsport, Pa.

Mr. Henry W. Obojski, General Engineering Dept., National Carbon Company, P. O. Box 6087, Cleveland 1, Ohio.



New way to

ATTRACTIVE, LOW-COST SCHOOLS

Design your next school with durable STRAN-STEEL products

Stran-Steel buildings and architectural products are engineered for the best possible combination of esthetic and functional qualities. A Stran-Steel building is a clean, attractive basic structure, which lends itself to both modern and traditional school architectural styling. One big reason for such versatility is the Stran-Satin metal wall which blends beautifully with collateral materials such as wood, glass or stone.

And Stran-Steel pre-engineered buildings give your school client other advantages he wants:

Variety. School facilities can be readily designed using complete buildings, frame only, selected components or suitable structural members.



STRAN-STEEL CORPORATION
Detroit 29, Michigan • Division of

NATIONAL STEEL CORPORATION

Here's where to get more information:

Atlanta 3, Ga., 206 Volunteer Bidg.; Chicage 6, III., 205 W. Wacker Dr.; Cleveland 16, Ohie, 20950 Center Ridge Rd.; Detroit 29, Mich., Tecumseh Rd.; Houston 3, Taxas, 2444 Times Bivd.; Kansas City, Me., 6 East 11th St.; Minneapolis 4, Minn., 708 S. 10th St.; Plaw York 17, N.Y., 405 Lexington Ave.; San Francisco 3, Cal., 1707 Central Tower Bidg.; Washington 6, D. C., 1025 Connecticut Ave., N.W.

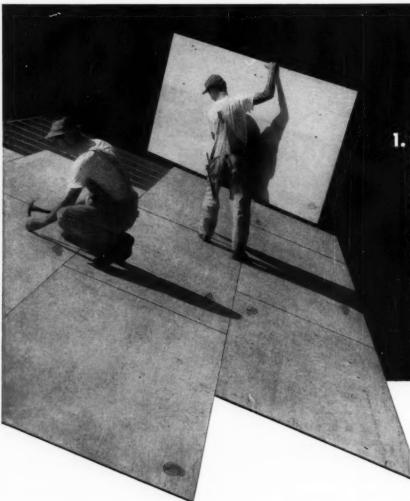
Low cost. Original cost of Stran-Steel buildings is low, compared with other types of structures. Your client will save on construction costs, too, because his building goes up in weeks instead of months.

Durability. All-steel Stran-Steel buildings, joists, studs, columns and beams last longer because they are *steel*. And insurance rates are lower.

Adaptability. Column-free interior space gives complete flexibility in the use of a Stran-Steel building. It can be easily partitioned into the number and size of classrooms you wish. Or it can be left open as an auditorium or gymnasium. Six sizes: 32-, 40-, 50-, 60-, 70- and 80-foot widths.

So when you're faced with a request for a school building that must be economical as well as attractive, investigate Stran-Steel. For more information, write today for detailed literature. Or call the local Stran-Steel dealer listed in your classified telephone directory.

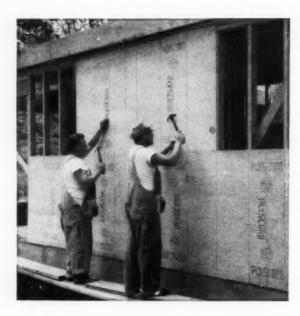
Stran-Steel Corpo	oration, Detroit 29, Michigan	
☐ Please send m	e your new Buildings Catalog.	
☐ Please have y	our representative contact me.	
Name		
Company		
Street		
City	Zone State	
57-8S-27A		23



1. PlyScord roof sheathing saves up to \$2.00 per square

Figure all the costs-material, time, labor, waste and nails-and you'll find you can offer your prospects the plus structural advantages of PlyScord at less net cost to you. Exact savings vary from area to area, but builders report 3/4" panels over 24" rafter spacing save \$2.00 and more per square. PlyScord roof decking goes down fast. Requires fewer nails. Stable, resists buckling. Finish roofing looks better, is easier to apply on firm, solid PlyScord decking.

For at lower



2. PlyScord wall sheathing saves 25% in labor costs

Large, light PlyScord panels save 25% and more in application time and costs. And because of its extra strength and rigidity (over twice as strong and rigid as diagonal lumber), you can omit conventional diagonal bracing. PlyScord's extra rigidity makes it ideal for shear walls in buildings with large glass areas, provides an added measure of protection in case of storm or earthquake.

FOR COMPLETE INFORMATION, specifications, design data, write for free "Plywood Construction Portfolio." (Offer good USA only.) Douglas Fir Plywood Association, Tacoma 2, Washington.



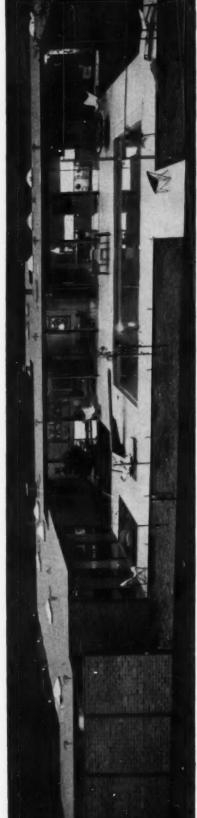
the best construction, in-place cost, specify PlyScord

3. Use inexpensive PlyScord backing for tile, hardwood

Firm, solid PlyScord backing simplifies installation of finish wall and ceiling coverings such as tile, cork, thin paneling. Plywood's strength and stiffness makes them look better with no unsightly buckling. Easy to cut, fit and fasten, fir plywood grips nails firmly so they won't work loose to mar appearance of wall or ceiling coverings.







VICENTE, LOS ANGELES BY CRAIG ELLWOOD FOR THE MAGAZINE, ARTS & ARCHITECTURE. PHOTO BY JASON HAILEY, BOF DESIGNED 17. STUDY HOUSE NO.

Pooled Resource: Terrazzo

Of all the "natural" resources at an architect's command, few can compare with adaptable Terrazzo. Whether the design calls for an old swimming hole in the backyard, or a shuffleboard in the recreation room, Terrazzo comes through with flying colors. Versatile as an architect's imagination, marble-hard and concrete-

stairs and wainscots. The smooth, jointless surface cleans readily, is easy to walk on and almost impossible to wear out. Further details upon request. Write the Association in Washington, D. C. AIA Kit available. Catalogued in Sweet's.

durable Terrazzo is the last and lasting word for floors, walls,

2 Sheraton Building, 711 14th St., N.W., Washington 404 THE NATIONAL TERRAZZO AND MOSAIC ASSOCIATION

ů

THE RECORD REPORTS

WASHINGTON TOPICS

(Continued from page 48)

Franklin G. Floete, Administrator of the General Services Administration, and Assistant Postmaster General Ormonde Kieb, chief of the Post Office Department's Bureau of Facilities, before a meeting of the Senate Subcommittee on Public Buildings and Grounds.

Mr. Floete gave two primary reasons for removing the ban on lease-purchase construction, imposed last February by the Administration because of the "inflationary pressures" the program created: (1) a surplus of labor in several areas, and (2) various construction cost indices have shown that costs in building have "leveled off" in the past three months, and probably will continue to do so.

He said the GSA is now prepared to proceed with 39 projects that have Congressional approval, architectural work completed, and sites acquired.

Mr. Kieb was somewhat more cautious in his testimony, saying that the Post Office Department would go ahead only with what it considers to be "emergency" projects.

"We feel there is justification for relaxing the freeze order of last February in view of the leveling off of construction costs and the shortage of construction labor in certain areas," he told five obviously pleased members of the subcommittee.

In addition, Mr. Floete said that several states have authorized tax exempt revenue bonds for municipalities, indicating an easing in the supply of mortgage money.

(Both GSA and the Post Office Department were resuming the program under the same limit of four per cent money which last February was considered one of the chief obstacles to success.)

The top GSA spokesman, however, did emphasize that the agency would have to have more money for site acquisition and architectural work to proceed past these 39 projects. It received \$20 million this fiscal year and asked for \$20 million for fiscal 1958. The House has already voted the agency this amount.

Further, there are about 10 amendments to the present lease-purchase act that GSA feels would greatly facilitate the program, particularly two amendments with respect to financing. In broad terms, these amendments would permit beginning of the purchase con(Continued on page 302)



you <u>know</u> you're right when you specify by **DFPA*** grade-trademarks

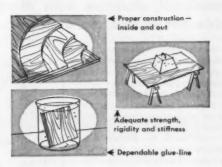
factory-inspected, laboratory-tested

To qualify for DFPA grade-trademarks, manufacturers must pass rigid and continuous inspection of current plywood production. In addition to these on-the-spot mill checks by DFPA quality supervisors, thousands of samples undergo scientific testing in DFPA laboratories. Use of grade-trademarks may be withdrawn if quality is not satisfactory.

right grade, right quality for every job

DFPA grade-trademarks are specification guides to the *right* grade for a specific job. Only genuine DFPA quality-tested panels bear DFPA registered grade-trademarks. There are imitations. Don't be misled!

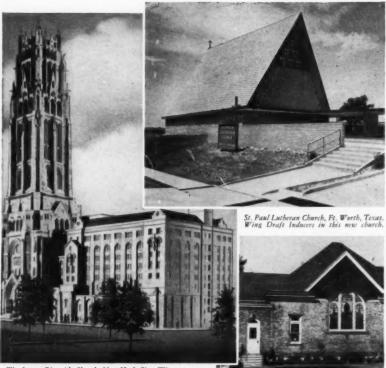
Be sure you can tell the difference.
Send for the DFPA Quality Story—a portfolio of gradeuse data and a step-by-step description of the DFPA quality control program. Write Douglas Fir Plywood Association, Tacoma 2, Washington. (Offer good USA only)





*DFPA stands for Douglas Fir Plywood Association, Tacoma 2, Washington—a non-profit industry organization devoted to product research, promotion and quality maintenance.

FPA grade-trademarks Fir Plywood



The famous Riverside Church, New York City. Wing Draft Inducers are installed in enlarged building.

Calvary Lutheran Church, Crawford, N. J. Wing Draft Inducers in remodeled heating plant.

Whether the architecture be classic, modern or conventional, churches with Wing Draft Inducers provide better heating at lower cost

Church congregations today expect comfortably heated buildings, and with modern heating equipment that is easily possible, regardless of the age of the edifice. But to assure comfortable heating, boiler draft must be adequate at all times, regardless of wind or weather conditions. Only a Wing Draft Inducer can give that assurance. It is low in cost, it is easily installed, it is automatic in operation, and in addition to all that, it cuts fuel bills, too. • Complete details are available in Bulletin I-57. Write for a copy today. Use the coupon.



L.J. Wing Mfg.Co. 151 Vreeland Mills Rd., Linden, N.J.







151 Vreeland Mills	Rd., Linden, N.J.
Please send copy	of Draft Inducer Bulletin I-57.
Name	************************************
Firm	
Address	
City	Zone State

THE RECORD REPORTS WASHINGTON TOPICS

(Continued from page 300)

tract term at the commencement of construction in order to eliminate short-term borrowing for construction; allow GSA some flexibility with respect to the cost of buildings; extend the act three more years beyond July 22, 1957; remove the limitation of the annual amount of payments to 15 per cent of the fair market value; and put in new language pledging the full faith and credit of the Government in these contracts.

Mr. Floete also indicated GSA is interested in "exploring" the possibilities of using the straight lease program, as employed by the Post Office Department. It was explained that in many cases certain Federal agencies are moved or reduced in personnel, making it more advantageous for the Government to lease rather than eventually take title as under the lease-purchase act.

A bill to accomplish these lease-purchase amendments was introduced in the House by Representative McGregor (Ohio).

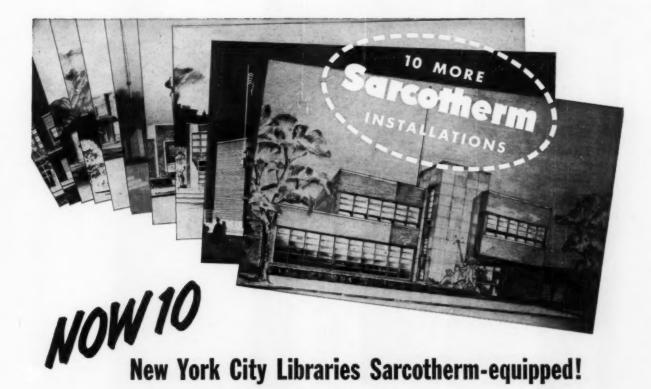
Congress has approved a total of 98 lease-purchase projects, and of these, GSA has awarded the architectural-engineering contracts for 51 and has acquired sites for 72. Mr. Floete said it will cost the agency about \$75 million to process all 98 projects, and that if it receives the \$20 million for fiscal 1958, it will be short about \$35 million.

\$1.5 BILLION SOUGHT FOR 1958 MILITARY BUILDING

The military services have sent their annual money requests to Capitol Hill, this year requesting authorization amounting to \$1.5 billion for their construction programs at home and abroad. This amounts to an authorization request only, and the dollars and cents would have to be voted by Congress in appropriation measures in addition to action on the authority measure. The largest authority increment is sought for the Air Force - \$802.9 million for its public works of all sorts. The Navy would be authorized to spend \$435 million under its terms, and the Army, \$323.3 million.

The new authorization request is well under the nearly \$2 billion sought from Congress for fiscal 1957, and with its full \$1.5 billion would provide for the

(Continued on page 308)



UNIFORM COMFORT under all weather conditions is of first importance to a library.

Sarcotherm heating controls, ventilating controls and specialties have been installed during the last two years in ten libraries, designed and constructed under supervision of the New York City Department of Public Works.

Sarcotherm controls are extremely accurate, sensitive and dependable. They provide troublefree performance, promote economical operation and contribute to enthusiastic user satisfaction.

For further information on Sarcotherm weather-modulated controls, Sarco heating specialties and Sarcofin finned-tube and baseboard radiation, write for catalog.

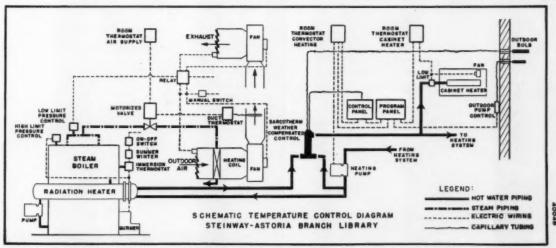
Sarcotherm Controls, Inc., Empire State Bldg., New York 1, N. Y.

10 New York City Libraries Sarootherm-equipped within last 2 years
Bere Park Branch • Inwood Branch • Laurelten Branch • Mapleton Branch • Midwood
Branch • Mosholu Branch • New Utrecht Branch • Steinway-Astoria Branch
115th Street Branch • 125th Street Branch • 12

Sarcotherm

AN AFFILIATE OF SARCO COMPANY, INC.
Weather-Compensated Controls for steam, hot water and radiant Heating

40048



Architect: Adolph Goldberg, Brooklyn, N. Y. Engineers: V. L. Falotico & Associates, Brooklyn, N. Y. Heating Contractor: H. Sand & Co., New York, N. Y.

is fire-protected

insulating concrete

Behind the gleaming aluminum face of the 20story tower of the Bank of the Southwest Building, in Houston, Texas, is a curtain wall of light weight insulating concrete made with Permalite expanded perlite aggregate. The diagram shows clearly how architect Kenneth Franzheim designed this wall to gain a full 4hour fire rating. Portland cement and Permalite, in a 1-to-4 mix with an air-entraining agent, were machine applied. The architect's office states that the finished wall proved to be very hard, dense and structurally sound.

IN ACTUAL FIRE TESTS of 4" perlite insulating concrete walls, such as this one, the temperature of the unexposed face averaged only 159°F. at the end of 4 hours. A further advantage is found in the fact that Permalite insulating concrete has only limited expansion at high temperatures and does not tend to bulge or spall off as do concrete and plaster made with heavy,

unexpanded aggregates.

MORE AND MORE, architects are designing for light weight insulating concrete curtain walls, since the many Permalite curtain wall jobs now standing have proved that Permalite insulating concrete provides adequate strength and fire protection, as well as additional acoustic and thermal insulation values.

write for information PERLITE DEPARTMENT GREAT LAKES CARBON CORPORATION 612 south flower street, los angeles, california

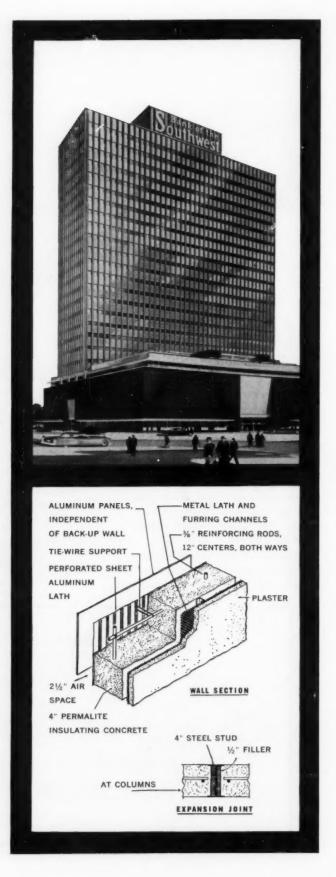
Kenneth Franzheim, Houston, Texas.

GENERAL CONTRACTOR:

W. S. Bellows Construction Co., Houston, Texas.

CURTAIN WALL HUNG BY: A. A. Greer, Inc., Dallas, Texas.

PERMALITE SUPPLIED BY: Perlite of Houston, Inc., Houston, Texas.





12-veneer offers opportunities for unusual and dramatic concepts in design and decoration wherever interior tile are used. This 11% x 11% x % tile is available in 20 decorator colors including the six shown at left.

> GLAZED QUARRY

Frostproof tile . . . perfect for store fronts, swimming pools, feature walls and decorative inserts . . . 20 decorator colors. Sizes: 214 x 8 x 34, 6 x 6 x 1/2, 6x6x36,3%x8x34, 3% x 12 x 34 and matching trim units.

QUARRY

TILE

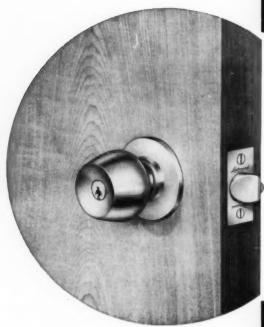
Now 6 earth colors that harmonize with or compliment any color scheme. Scratchproof, fireproof, acidproof. Sizes: (red) 6 x 6 x 1/2, 6 x 6 x 3/4, 2 1/4 x 8 x 14, 3% x 8 x 14, 3% x 12 x 14, 6 x 9 x 14 and trim units. Colors other than red: 6 x 6 x 1/2 and trim units.

FAMOUS ummitville QUALITY IN ALL.

Summitville has been famous for quality for over thirty years. From this experience has come the "know-how" and facilities to produce three outstanding products . . . 12-veneer and frostproof glazed quarry tile in 20 decorator colors and quarry tile in 6 natural clay colors. • Remember . . . when you specify Summitville, you specify unsurpassed quality. . Contact your local ceramic tile contractor or write direct to

MEMBER. TILE COUNCIL OF AMERICA INC. Summitville Tiles Inc.

cylindrical and mortise... both in matching trim



ZEPHYR DESIGN . . .

heavy duty cylindrical lockset in cast brass, bronze or aluminum

Compact, easy to install, complete range of functions despite space limitations of cylindrical housing.

Lockwood has contributed to this engineering advance as well as introducing important construction features which have increased durability and security.

Today Lockwood's 'H' Series is recognized as the leader in heavy duty cylindrical locks.

ZEPHYR DESIGN . . .

with heavy duty mortise lock in cast brass, bronze or aluminum

Modern, standardized mortise locks no longer require mortises of varying sizes. Lockwood engineers pioneered the standardization of external dimensions.

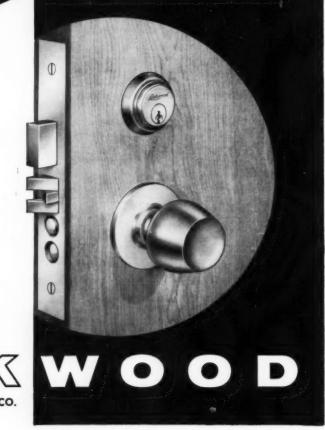
As a result, architects can now specify mortise locks for the complete installation or only for certain doors.

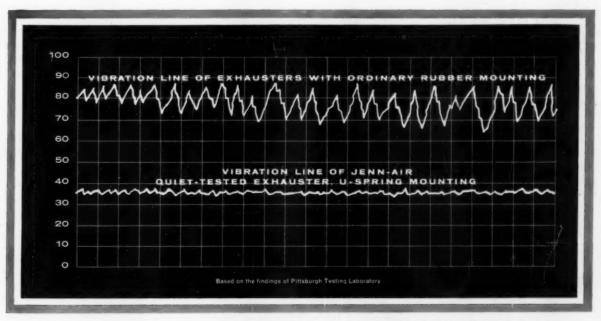
And Lockwood makes it possible to utilize cylindrical and mortise locks with matching trim in one installation.



LOCKWOOD HARDWARE MANUFACTURING CO.

Fitchburg, Mass.





44% Less Vibration with

The above chart shows a comparison of vibration levels between ordinary exhausters and Jenn-Air Quiet-Tested Exhausters.

JENN-AIR Quiet-tested Roof Exhausters!

Independent Laboratory Tests Prove Conclusively That Jenn-Air Quiet-Tested Roof Exhausters With U-Spring Suspension Show 44% Better Vibration Isolation Than Exhausters With Power Assembly Mounted in Rubber

Noise elimination is a problem which faces the ventilation industry today. To minimize the noise caused by vibration, Jenn-Air developed the Quiet-Tested Roof Exhauster with U-Spring cushion suspension. Now an independent laboratory offers proof positive this new principle of suspending the power assembly with U-Springs does the job. The PITTSBURGH TESTING LABORATORY, an independent research firm, was recently asked to compare Jenn-Air's Quiet-Tested Roof Exhauster, with U-Spring Suspension Mounting, against exhausters with ordinary rubber isolators. Tests were conducted under actual working conditions. Result: (see chart for dramatic evidence): Jenn-Air Exhausters showed 44% less vibration transmission than the other exhausters.

U-SPRING CUSHION SUSPENSION MOUNTING REDUCES VIBRATION ... NOISE LEVEL

This innovation is another important improvement by Jenn-Air. It ensures against the major operating vibration and noise being transmitted through the duct work and into the building. The stainless steel also assures you the permanency of this quiet operation. Jenn-Air—and only Jenn-Air—Quiet-Tested Exhausters are proved under simulated field conditions. Each unit must pass rigid inspection by the critical Vibronic Eye...is 'screened' in Jenn-Air's Sound-Elec Test Chamber to detect noise and vibration.

Patents Pending



JEHN-AIR PRODUCTS COMPANY, INC.

1102 Stadium Drive • Indianapolis, Indiana



Jenn-Air Quiet-Tested Roof Exhauster, with U-Spring Cushion Suspension Mounting. Note low contour design which complements modern architectural lines.

Indianapolis	7, Indiana
Please send tion on how	me free catalog giving complete informa Jenn-Air U-Spring Cushion Suspension to vibration, lowers noise level.
Name	as violation, towers here terein
	a riciation, toners have
Name	S VIDEON, IONELE ISSUE
Name	S TANGERON, TOTAL STATE STATE

THE RECORD REPORTS WASHINGTON TOPICS

(Continued from page 302)

building of 271 installations in 47 states and the District of Columbia (Wyoming was only exception).

Of the total sought, \$1.2 billion would be spent in the United States and only \$300 million abroad. The request included \$54.7 million for 2381 housing units for the three services to be constructed with direct appropriations.

BUILDING FUNDS CUT OF \$1.8 BILLION IS PROPOSED

The construction industry was spared any consideration for deep cuts in future Federal authorizations for building expenditures when President Eisenhower submitted his April letter to House Speaker Sam Rayburn (D-Texas), suggesting a spending authority curtailment of \$1.8 billion. Only \$290 million of this figure could be applied to direct and government-aided work.

Largest single proposed cut was in military public works where the Presi-

MASONRY!

dent suggested that "less urgent" projects totaling \$200 million in estimated cost might be deleted. He also recommended that the investment of the Federal National Mortgage Association be clipped by \$50 million, that new spending authority for college housing be reduced by \$25 million, and that adjustment of Corps of Engineer construction schedules might save another \$15 million. It was emphasized that these moves, if taken, would not reduce actual fiscal 1958 expenditures, but reflect in future budgets insofar as authorized expenditures might now be reduced.

It also was hinted by the President that sums of money would be saved through authorization of a users' charge to help pay for airport facilities and through better Federal-state partnership arrangements with regard to civil works.

In another House action on appropriations, all funds for the industry divisions of the Business and Defense Services Administration of the Commerce Department were eliminated; the recommendation of the House Appropriations Committee in its report of the fiscal 1958 bill was upheld by the action of the whole House. If this action were to stand unchanged, it meant no funds for continuing the construction statistics operations at Commerce — the nonresidential put-in-place series - which fell under one of the BDSA industry divisions.

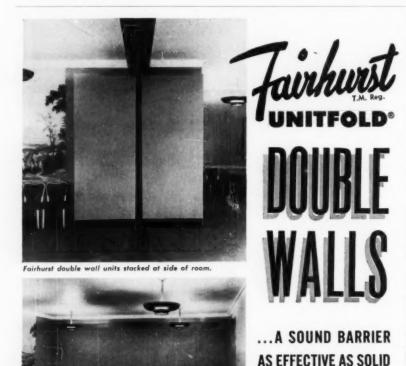
Some of the industry trade associations moved at once in an effort to persuade the Senate Appropriations committee that \$200,000 to \$250,000 of the \$3.5 million slashed from the agency's salaries and expenses column should be replaced so that the statistical efforts in the construction field could continue without interruption. The activities of the Bureau of Labor Statistics in the Department of Labor on housing information were not so threatened.

PROPOSE AID ON BUILDING MEDICAL TEACHING UNITS

Medical teaching facilities would be constructed with Federal assistance under a new bill introduced by Senator H. Alexander Smith (R-N. J.). He proposed to integrate grants for construction of such facilities with currently authorized aid for building health research centers.

There was this note of explanation: "As the programs for both areas will deal almost completely with the same institutions and schools, and since the line of demarcation between the use of facilities for research and teaching is a difficult one to define, it was felt most

(Continued on page 312)



This Fairhurst Folding Wall divides Hotel Statler meeting room for double use, Buffalo, N. Y. Noel Simon, architect.

Here is an example of the most efficient sound retardance possible in folding

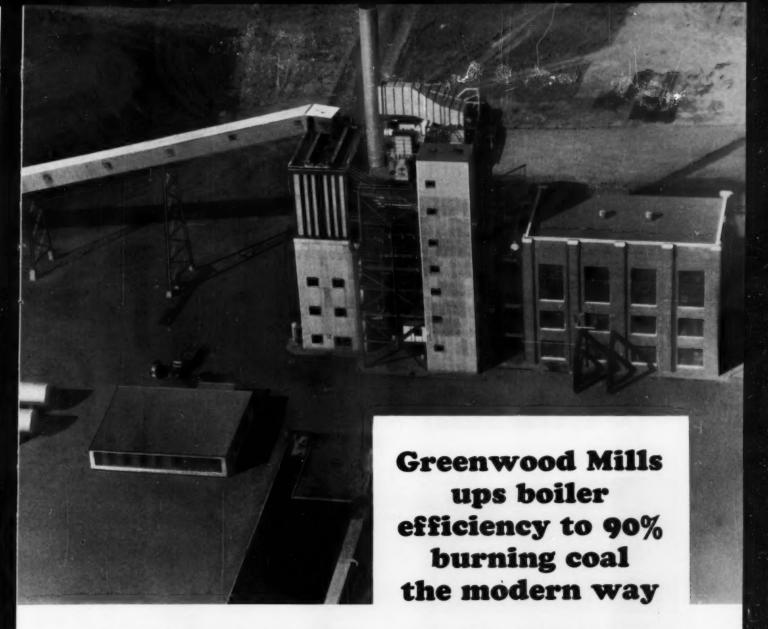
The units of each Fairhurst Folding Wall interlock tightly, without bolts, hinges, or visible hardware as in other types. This solid, rigid construction, coupled with 6 lating air space between walls, has been proved to block sound with efficiency approaching that of a $10^{\prime\prime}$ – $12^{\prime\prime}$ 3-coat plaster brick wall.

Yet Unitfold is designed for easy hand operation, regardless of size of units. It's the work of a minute for one man to slide wall into place; or to store after use in convenient built-in pockets, completely out of sight.

Write Dep't AR for free illustrated booklet describing Fairhurst Unitfold & Unitslide

John T. Fairhurst Co., Inc. 45 West 45th Street New York 36: N. Y.

FAIRHURST . . . First Name in Folding Walls



Consult an engineering firm

Designing and building hundreds of heating and power installations a year, qualified engineering firms can bring you the latest knowledge of fuel costs and equipment. If you are planning the construction of new heating or power facilities—or the remodeling of an existing installation—one of these concerns will work closely with your own engineering department to effect substantial savings not only in efficiency l ut in fuel economy over the years.

facts you should know about coal

In most industrial areas, bituminous coal is the lowest-cost fuel available • Up-to-date coal burning equipment can give you 10% to 40% more steam per dollar • Automatic coal and ash handling systems can cut your labor cost to a minimum. Coal is the safest fuel to store and use • No smoke or dust problems when coal is burned with modern equipment • Between America's vast coal reserves and mechanized coal production methods, you can count on coal being plentiful and its price remaining stable.

When its original power plant could not keep up with growing steam demand, Greenwood Mills, Greenwood, S. C., studied the problem and decided to replace the old facilities.

Greenwood's engineering and construction departments, working with Consulting Engineer Frank Hill of Greenville, designed and built a completely modern power plant. It features a pressurized 300,000 lb./hr. boiler equipped with two cyclone furnaces burning ½" x 0" coal. Automatic throughout—from coal conveyors to pneumatic combustion control to hydraulic ash handling—the system is manned by a minimum of operators. Burning coal the modern way has resulted in a trouble-free boiler plant operating at a combustion efficiency of 90% or better.

For further information or additional case histories showing how other plants have saved money burning coal, write to the address below.

BITUMINOUS COAL INSTITUTE Southern Building • Washington 5, D. C. Its name: Dallas Memorial Auditorium

Its Iocation: Dallas, Texas

Its architect: George L. Dahl, architects and engineers

Its contractors: R. P. Farnsworth & Co., Inc.

Among its appointments: Yale 8000 Series Locksets





Essex Knob and Rose
-especially
designed for Dallas
Memorial Auditorium

Distinctive Yale 8000 Series Locksets give institutional structures, hotels, apartment buildings, emporia, restaurants, the very best in functional security—linked with modern, graceful styling that compliments any interior or exterior design. Series 8000 locks (with key- or latch-operated deadbolt... with brass, bronze or bright chromium finish) are reversible and corrosion-resistant. Attributes such as eye-appeal, efficiency, convenience, durability, you'll find in all Yale mortise locks. And each model—in its own way—will agree with your concept of clean design, correct proportion...add renowned Yale security to your building.

YALE-REG. U. B. PAT. OFF.

The Yale & Towns Manufacturing Co. Lock & Hardware Div., White Plains, N. Y.

YALE & TOWNE



THE RECORD REPORTS WASHINGTON TOPICS

(Continued from page 308)

appropriate to combine the programs under a single administrative unit."

A total authorization of \$225 million was proposed, \$195 million for medical research and teaching facilities grants, and \$30 million for dental research and teaching facility construction. The total new authorization would amount to \$165 million over a five-year period.

The House had already passed an appropriations bill including \$30 million for fiscal 1958 for assistance in the construction of health research facilities.

COMMITTEE REPORT URGES MAJOR HHFA CREDIT STUDY

The House Banking Committee recommended a ten-months study on mortgage credit to be conducted by the Administrator of the Housing and Home Finance Agency.

Such a study should determine, it said,

(1) the extent to which the residential building industry is able to secure the mortgage credit, manpower, and materials required for the construction of residential units of the types and in the quantities needed to satisfy the demand for housing, and (2) the methods and policies by which such industry, without aggravating the overall problem of controlling inflation, may attract a greater share of available credit, manpower and materials.

The committee approved the study in reporting out the omnibus housing bill in April. It urged high priority for such an investigation with findings going to the President and Congress by next February.

At the same time, the committee expressed concern over the nation's housing inventory, claiming it had found millions of units in a "substandard" category. Its concern extended to the effects of restrictive monetary policy on the housing industry, it said.

NEW BILL ASKS REPORTS ON PROGRESS OF "DISPERSION"

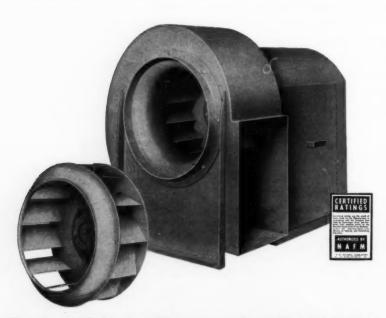
One Senator has expressed himself on the matter of industrial dispersion to the point of introducing a new bill calling for periodic reports from the Office of Defense Mobilization on just what steps are being taken to force the geographic spreading out of plant facilities. He is Sen. Carl T. Curtis (R-Neb.), who has enlisted the aid of nine mid-western colleagues who believe the Great Plains area of the country is a perfect location for dispersed industry.

The proposal is in the form of an amendment to the Defense Production Act of 1950, requiring the first ODM report to be submitted to Congress on or before July 1 this year.

An amendment already enacted and a part of the act directs the government to apply the principle of industrial dispersion "when feasible" to its own erection of industrial plants, to its participation in any such plant construction, and to the procurement of goods and services under the law.

Senator Curtis and his co-authors want Congress to learn from the suggested reports just how effective the policy is, and how well it is being applied.

Transcending the strife in Congress between the industrial "haves" and the industrial "have nots," he contended, is the recognition that continuing concentration of the country's productive capacity would prove foolhardy in the event of atomic attack.



Backward Curve Blowers—Certified Ratings Completely Designed, Engineered and Manufactured by Peerless Electric

Peerless Backward Curve Blowers are all Peerless—motor and all. We control the entire production of this versatile blower, from drawing board to finished product. We guarantee it unconditionally for quiet, trouble-free operation. Peerless Backward Curve Blowers can be specified with confidence. They are thoroughly tested according to test codes. They meet NAFM and NEMA standards. Scores of them are operating in schools, churches, hospitals and government installations.



FORWARD CURVE BLOWERS

Made entirely by Peerless; arc-welded housings and frames; wheels designed for quieter operation; dynamically balanced.

CENTRIFUGAL ROOF VENTILATORS

Matching wheel cone accurately fits spun venturi for quieter, smoother air movement. All welded construction material 16 ga. or over. Each unit air tested, and rated to assure certified PFMA ratings. Fits standard curbs.



Charter Member of the Air Moving and Conditioning Association



THE Peorless Electric COMPANY

1448 W. MARKET ST. . WARREN, OHIO FANS - BLOWERS - ELECTRIC MOTORS - ELECTRONIC EQUIPMENT Write Today for Bulletins SDA-220, SDA-200 and SDA-160

See our Catalog in Sweets



NOW! GET RIVIERA COMFORT . . . ANYWHERE!

Now you can get more year-round comfort . . . for more buildings than ever before . . . with the extended line of Webster Riviera Heating-Cooling Conditioners. Now your Warren Webster Man offers two more all-new larger-size Rivieras — in capacities to more than a ton — for hotels, apartment buildings, hospitals, office wings and similar commercial applications.

Here's a central system for hot water

heating and chilled water air conditioning . . . with identical distribution piping and no ductwork at all. Available in four capacities and a wide variety of vertical, horizontal, and concealed-type cabinets.

Every Riviera is backed by Webster's Finest Product — the Warren Webster Man. Call him today . . . ask for Bulletin B-2001. Warren Webster & Co., Camden 5, New Jersey. Since 1888. Offices in 69 principal U.S. cities and Canada.

The Riviera... on the beautiful Mediterranean shore, where the climate is ideal all year 'round and where luxurious comfort is unsurpassed... finds its counterpart in the comfort-climate you can create with the Webster Heating-Cooling Conditioner called

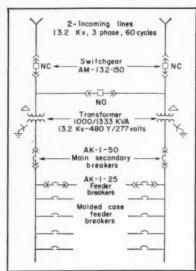
Piviera

Webster's Finest Product . . . the Warren Webster Man

WARREN WEBSTER

HEATING ... COOLING





AS MODERN AS TOMORROW, the Sheraton Hotel combines this highly efficient 480Y/277-volt electrical distribution system with forward-looking construction.



INCOMING SERVICE AT 13.2 KV is reliably handled by easy-to-maintain G-E metal-clad vertical lift switchgear.



SAFER G-E panelboards with molded-case circuit breakers are designed to occupy little space, permit easy wiring. They are installed in wiring closets.

General Electric 480Y/277-Volt Distribution System Permits \$50,000 Savings at New Sheraton Hotel

MODERN HOTEL COMBINES FLEXIBLE LOAD CENTER SYSTEM, HIGH VOLTAGE LIGHTING TO CUT EQUIPMENT, INSTALLATION COSTS

Rising 22 floors above Philadelphia's comfort and services for hotel guests, Penn Center, the ultra modern Sheraton Hotel combines the latest in construction details with an efficient high voltage electrical power distribution system which is currently being installed in many commercial buildings.

Designed to provide maximum

the new Philadelphia Sheraton Hotel has incorporated a General Electric 480Y/277-volt electrical system which permitted savings of \$50,000. To design this modern system, G-E engineers worked closely with consultants Slocum and Fuller; and architectsPerry,Shaw,Hepburn, and Dean. The electrical contractor was Keystone Engineering Corporation. One feature of the system is the installation of G.E.'s new quiet, drytype, general purpose transformers. These low-noise-level transformers add further comfort for Sheraton Hotel guests.

From primary switchgear at the incoming line through secondary distribution and protective apparatus, General Electric system-engineered equipment provides highly reliable power at the Sheraton.

To see how General Electric can help you achieve significant savings with a 480Y/277-volt electrical distribution system, consult your nearest G-E Apparatus Sales Office or write to General Electric Company, Section 680-11, Schenectady, N. Y.



COMPACT low voltage switchgear and distribution switchboard protect low voltage side of "packaged power" system.

Engineered Electrical Systems for Commercial Buildings





FLEXIBLE double-ended load center unit substation with integrated units furnishes highly dependable power close to load.



QUIET General Electric dry-type transformers, with low-noise-level characteristics, help improve sleeping comfort for Sheraton guests.



DECORATIVE LIGHTING enhances main ballroom. High voltage lighting in many areas of hotel permits low-cost use of combined light and power system.



COORDINATING THE PROJECT were M. Savitt of Slocum and Fuller, H. Cohen and L. Evelev of Keystone, T. S. Duff of Slocum and Fuller and A. M. Cook, G.E.

THE RECORD REPORTS ARCHITECTURE ABROAD

(Continued from page 14)

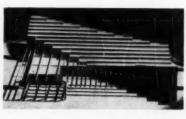
signed by architect Edward D. Stone, was reported in the February issue of ARCHITECTURAL RECORD.

The Atomium

The Atomium, which will be 360 ft high, will house a restaurant in its uppermost "atom"; other sections have been rented to the participating countries for



Above the Polish pavilion, Solatan, architect. Below: the Finnish pavilion; Heima Pietila, architect



displays of atomic research. The central shaft of the Atomium will contain the elevator; other sections will be connected by escalators and stairways.

"Logexpo"

In addition to the exhibition buildings, the Belgians are also furiously constructing housing accommodations for the 30 or 35 million visitors expected next summer. "Logexpo," the government agency formed to handle this influx, plans the "world's largest motel," to accommodate 4000 people in 2000 rooms; a 2500-room hotel; a trailer camp for 500; and a camping area. Reservations will be made electronically.

Design Requirements

Architecturally, the Belgian officials exercised no control over the design of the foreign pavilions - their only requirement was that the participants build on 70 per cent of the area allotted them. Without knowing what sort of architectural solutions would be proposed, it "seemed imperative" to chief architect M. van Goethem "to avoid severe alignments and to substitute pleasant curves which would reveal at each turning a pavilion in green surroundings, and isolated as far as possible." The only overall view which visitors will have of the foreign section will be from the 1310-ft-long elevated walk to be built over the area.

The Belgian architects were more (Continued on page 320)



IRONBOUND* CONTINUOUS STRIP* MAPLE FLOOR

In Philadelphia nearly everybody reads the Bulle-tin. And getting the Bulletin to readers means hauling thousands of pounds of newspapers over this Robbins Ironbound floor every day. That's a lot of punishment for a floor, yet Ironbound can take such a daily beating and retain its smoothness, beauty and dimensional stability for generations.

If you're interested in plant, gymnasium, class-room and warehouse floors that can "take it", be sure to specify Ironbound. It's installed only by experienced floor contractors - and every installation is guaranteed in writing.

Now available vacuum-impregnated to resist moisture, decay and termites. For full details, write Robbins Flooring Co., Reed City, Michigan.

Attn: Dept. AR-657



ROBBINS FLOORING COMPANY Reed City, Michigan

Ishpeming, Michigan

World's Largest Maple Floor Manufacturer

*T.M. Reg. U.S. Pat. Off

MILLIONS

ROBBINS

FLOORING

WALK DAILY



- sound-resistant, light-proof
- nylon carriers, aluminum track
- minimum stacking space—door stays put against jamb, without air pockets, puffiness or distortion
- nylon friction catch
- wide range of colors and sizes

Write for your copy of the Grant Reference Catalogue. Important data on Folding Doors and the full Grant line.

Outstanding single source for sliding hardware.

PULLEY & HARDWARE CORPORATION
31-71 Whitestone Parkway, Flushing 54, N. Y.

944 Long Beach Avenue, Los Angeles 21, Calif.
sliding door hardware • folding doors • drawer slides • drapery hardware • sheaves and tracks • tub enclosures • pulls • special sliding devices

only

REAL

door

that

Three installations that show the trend to

LUPTON Aluminum



COLGATE-PALMOLIVE BUILDING, New York City. Architects: Emery Roth & Sons. Contractors: Uris Brothers. Lupton Aluminum Curtain Wall, Type "H", with 4'5" width module.

MALL BUILDING, Philadelphia, Pa. Architect: Charles R. Colbert. Contractors: Shelby Construction Co., Inc. Lupton Aluminum Curtain Wall, Type "H", with 5' width module.

Curtain Walls

and Windows



3 PENN CENTER, Philadelphia, Pa. Architects: Emery Roth & Sons. Contractors: Caldwell-Wingate Construction Co. Combination fixed and ventilator windows adapted from a standard Lupton design.

These three new high-rise buildings exemplify modern planning and construction. All three were designed with famous LUPTON components. Indeed, LUPTON has always been in the forefront of the curtain-wall movement... and for good reason:

The characteristics of LUPTON Aluminum Curtain Walls and Windows result in unusual planning flexibility with either stock or custom units. The wide range of LUPTON styles, in both metal windows and curtain walls, frees you for truly creative planning with utterly reliable materials. You design LUPTON-made installations; LUPTON executes your wishes, in manufacture and frequently even in erection. LUPTON's undivided responsibility for the job assures you exact compliance with your instructions, and effects multiple savings for your clients.

SEE SWEET'S (Sections 3 and 17) for the Michael Flynn Curtain Wall and Metal Window Catalogs, and write for further specific information. A call to the nearest LUPTON representative (see the Yellow Pages under "Windows—Metal") will bring fast action—without obligation.

LUPTON

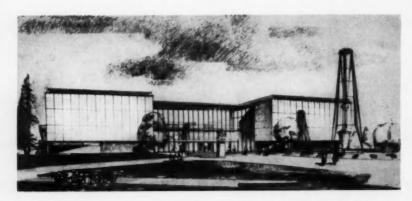
METAL WINDOWS - CURTAIN WALLS
MICHAEL FLYNN MANUFACTURING COMPANY
Main Office & Plant: 700 E. Godfrey Ave., Phila. 24, Pa.

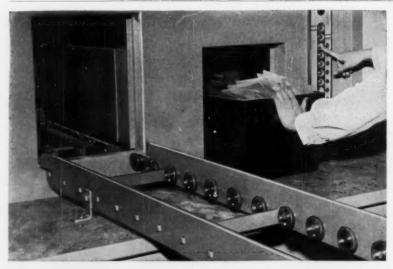
THE RECORD REPORTS

ARCHITECTURE ABROAD

(Continued from page 316)

closely regulated in their designs for the Belgian section, carefully planned for "unity." The height and general outlines of the buildings have been controlled, as has been the color of the building material. "If the frame work to which architects in the Belgian section must adhere seems a little rigid," Mr. van Goethem has said, "it is because





RECORDLIFT speeds important papers floor-to-floor automatically

If you have an office building job on the board — read this

Here's the perfect answer to inter-floor handling problems in modern multi-story buildings. This STANDARD conveying system can distribute tons of mail, supplies and business papers every day—quickly and safely.

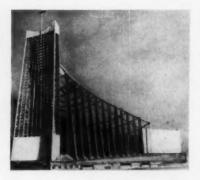
RECORDLIFT convenience and speed permit the uninterrupted coordination of related departments, regardless of their location. Containers can be sent to any floor in just a few minutes. And because of its simplicity and push-button control, the RECORDLIFT can be easily operated by anyone.

For complete details on cur-

rent RECORDLIFT installations, contact STANDARD CONVEYOR COMPANY, General Office: North St. Paul 9, Minnesota. Sales and Service in Principal Cities.



Above: the Czechoslovakian pavilion, Frantisek Cubr, archilect. Below: one part — a church — of the Vatican pavilion, P. Rome, chairman of the council of architects; this is the first time that the Holy See has participated as a state in a world's fair.



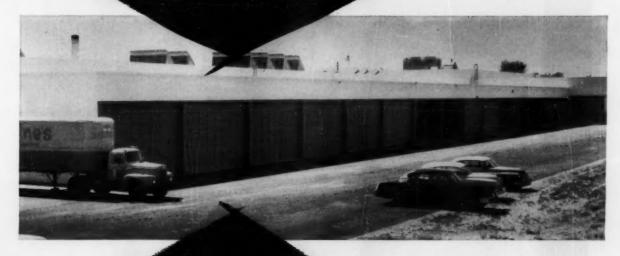
those responsible for the layout planning have wished to show that unity of form does not prevent the varied use of volumes, materials and colors, provided that these are always studied in a fluid sense and not in conventional rigidity. The master plan is to impose a certain discipline throughout the monumental perspective while leaving to each individual architect responsible for the erection of a pavilion the opportunity to show his imagination and ideas of composition. . . ."

In the case of the commercial concessions to be built in the Belgian section, controls have been relaxed somewhat. Architects were charged, however, to respect the spirit of the other Belgian buildings, and to use a maximum of metal and glass in their designs as "materials which best meet modern building requirements."

Chief architect for the Belgian section is J. Hendrickx van den Bosch.

The Belgians estimate that the fair will cost an approximate \$450 million, \$200 million of which will be absorbed by the Belgian government.

a Wall of Ro-Way Doors



ups Warehouse Efficiency

Here's a "wall" that rolls up electrically for big-truck access to a fully sheltered loading platform... closes tight—electrically—in seconds.

It's a popular, efficiency-boosting design for buildings with heavy traffic. A design that calls for the rugged construction, smooth performance and appealing lines of Ro-Way overhead type doors.

Ro-way commercial doors are built to last with seasoned lumber and Masonite® Dorlux® panels. Mortise and tenon joints both glued and steel doweled for extra strength. Seal-A-Matic hinges, Taper-Tite track and ball bearing rollers to assure smooth, trouble-free operation and snug fit. Big, properly tensioned Power-Metered springs for easy action. Electric operators for fast, efficient service. Heavy gauge hardware both Parkerized and painted to prevent rust and the corrosion of salt air and industrial fumes.

Check into the Ro-Way line . . . you'll like their wonderful features. Models for commercial, industrial and residential buildings . . . standard and special sizes to meet any design problem.

Architect's
Manual
Complete de-

Complete de tails, drawings, etc. or the entire Ro Way line. A big help in selecting the right door. Ask for



COMMERCIAL . INDUSTRIAL . RESIDENTIAL

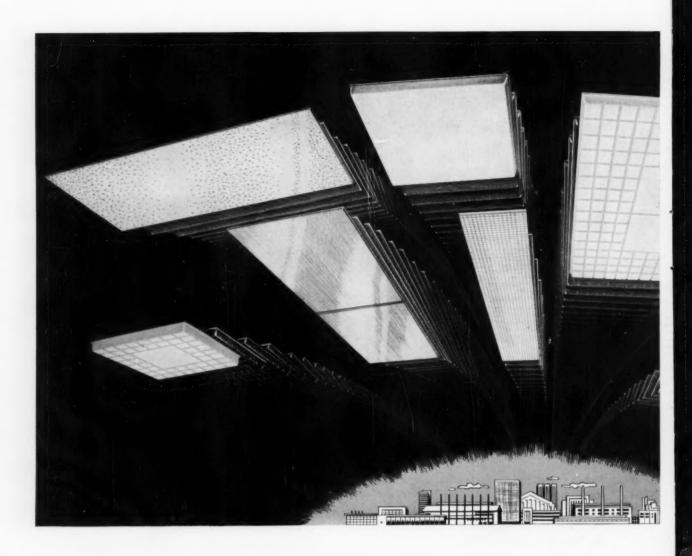
there's a Ro. Way for every Doorway!

ROWE MANUFACTURING COMPANY 1285 HOLTON STREET • GALESBURG, ILLINOIS





321



NEW ZENITHS Predicted for

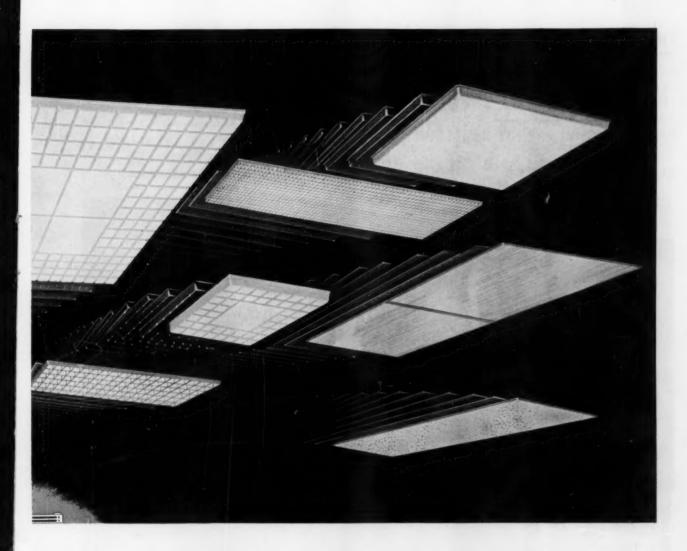
MAINLINER LUMINAIRES

created by Westinghouse
provide Myriads of New Decor
Opportunities... New Esthetic
Appeal... Maximum Lighting
Efficiency with Untold Ease of
Installation and Maintenance

Here—now—are luminaires accommodating—and conducive to—new ceiling design consistent with the finest architectural planning today!

They are the new Mainliner Luminaires, by Westinghouse, themselves contributing fresh, decorative excellence to the lighting design for any type of large area room. Yet functionally so superior, both in application and service, that they tend to obsolete most previous thinking on conventional luminaire installations!

Mainliner Luminaires afford more than 1,000 all different combinations—including surface mounting and 3 recessed



Design of Interior Lighting of All Types!

mounting types—in 13 selected shielding styles—and 6 basic variations in size!

Mainliner Luminaires are completely modular—with precise dimensional correctness, ideally "matching" any type of "squared" ceiling material whatsoever! They embody every refinement of advanced construction detail. They exemplify the simplest possible application, installation and maintenance characteristics.

Mainliner Luminaires will give your interior lighting designs—for any large area—new distinguished pre-eminence!

YOU CAN BE SURE ... IF IT'S Westinghouse



LARGE AREA LIGHTING from your nebrest Westinghouse representative. You'll want to employ Mainliner Luminaires now!

THE RECORD REPORTS

ON THE CALENDAR

June

2-5 Annual meeting, American Society of Refrigerating Engineers

— Miami Beach

2-6 Annual meeting, Air Pollution Control Association — Hotel Jefferson, St. Louis

3-5 Sixth annual convention, Na-

tional Parking Association—
Sheraton Cadillac Hotel, Detroit
3-7 Tenth International Hospital
Congress, organized by the International Hospital Enderstion

national Hospital Federation — Hospital de Santa Maria, Lisbon, Portugal

3-7 Buffalo convention, American Society of Civil Engineers — Hotel Statler, Buffalo

5-8 The 23rd annual meeting, National Society of Professional Engineers — Statler-Hilton Hotel, Dallas

 9-13 Semi-annual meeting, American Society of Mechanical Engineers

 Sheraton-Palace Hotel, San Francisco

10-12 Third annual meeting, American Nuclear Society — William Penn-Sheraton Hotel, Pittsburgh

13-15 Annual convention, New Jersey Society of Architects and New Jersey Chapter, American Institute of Architects — Berkeley Carteret Hotel, Asbury Park

14-29 Sixth Annual Boston Arts Festival, featuring two architectural exhibitions: "A Century of New England Architecture" and the annual New England Competition Exhibit — Boston Public Garden

16-21 The 60th Annual Meeting, American Society for Testing Material — Chalfonte-Haddon Hall, Atlantic City

17-21 The 65th annual meeting, American Society for Engineering Education — Cornell University, Ithaca, N. Y.

23-28 The 11th annual meeting, Forest Products Research Society.— Hotel Statler, Buffalo

23-29 Seventh International Design Conference — Aspen, Colo.

23-29 Annual conference, American Library Association—Municipal Auditorium, Kansas City

24-25 Annual spring meeting, Wire Reinforcement Institute — The Greenbrier, White Sulphur Springs, W. Va.

24-26 Third annual meeting, American Nuclear Society — William Penn Sheraton, Pittsburgh

24-27 Semi-annual meeting, American Society of Heating and Air-Conditioning Engineers—Murray Bay, Quebec, Canada

27-28 Annual convention, Minnesota Society of Architects — Duluth Hotel, Duluth, Minn.

28ff Chicagoland Fair, sponsored by the Chicago Association of Commerce and Industry; until July 14 — Navy Pier, Chicago

30ff Centennial convention, National Education Association; until July 6 — Philadelphia

July_

10-13 British Architects' Conference — Oxford

(Continued on page 328)



Addition to All Saints Episcopal Church, Portland, Oregon. Architect: Stuart B. Mackford, Oregon City, Oregon. Contractor: Anfelt B. Hanson Company, Portland, Oregon. Arch spon: 34'; center height 33'4'; 3 arches 5½' x 7'' x 17'' at 1ongent point; 2 arches 5½' x 7'' x 10'' at 10'' at pack base.



"... ECONOMICAL"... \$11.34 A SQUARE FOOT

Low cost combined with spaciousness makes this church addition truly noteworthy. The open feeling is enhanced by graceful laminated-wood arches leading to a skylight at the ridge. The purlin and deck construction accent this openness.

Besides bringing a feeling of quiet and reverence, the Rilco members helped keep costs down to a "very reasonable price for this construction," according to the architect — helped to develop an "existing busy design into a thing of beauty."

Rilco members — engineered to your specifications — could be the answer to one of your problems. For more information call or write



RILCO LAMINATED PRODUCTS, INC.

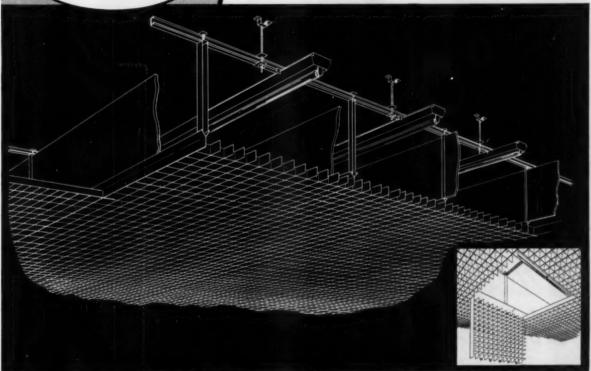
W818 First Natl. Bank Bldg., St. Paul 1, Minn. District Offices: Newark, N. J., Fort Wayne, Ind., Tacoma, Wash.





The first combination **ACOUSTIC-LOUVRE LIGHTING SYSTEM**

with unbroken louvre pattern in all directions



atimportant autouncemen

FROM THE PIONEER IN

LOUVRED **CEILINGS**

- A complete packaged louvre-all ceiling with lighting and sound control...ready for installation.
- Sound control by FIBERGLAS*...noise reduction coefficient .61.
- Unbroken louvre pattern in all directions...no protrusions or supporting parts visible from below.
- Perfect alignment is prefabricated...eliminates the necessity of manual alignment each time a unit is disturbed for service.
- Simple installation...one wing nut leveling for louvre and lighting.
- Aluminum louvres hinge from either side...removable without tools.
- Many, many more features for design, layout, installation, lighting, etc.

WRITE FOR ACOUSTI-LITE CATALOG No. 557

MANUFACTURERS OF LIGHTING FIXTURES INCLUDING









NEO-RAY PRODUCTS, Inc. 315 East 22nd St. . New York 10, N. Y.



Which magazine has most architect subscribers?

Architectural Record with 17,241. (Progressive Architecture has 16,202; Architectural Forum 12,687.)

> Source: December 1956 A.B.C. Publishers' Statements

2. Q.

Which magazine has most engineer subscribers?

A.

Architectural Record with 9,407. (Progressive Architecture has 8,517; Architectural Forum 4,371.)

SOURCE: December 1956 A.B.C.
Publishers' Statements

3.Q.

Which magazine has most staff architect and engineer subscribers in commercial, industrial, and institutional organizations?

A

Architectural Record with 2,585. (Progressive Architecture has 1,783; Architectural Forum 1,259.)

Based on December 1956 A.B.C. Publishers' Statements: Staff Architects and Engineers in "Commercial, Industrial & Institutional" organizations. 4. Q.

Which magazine do architects and engineers prefer?

In 95 out of 104 studies SPON-SORED BY BUILDING PRO-DUCT MANUFACTURERS AND ADVERTISING AGENCIES, architects and engineers have voted Architectural Record "preferred." Architectural Record placed first in 27 out of 29 studies in 1955 and 1956.

Summary of 104 studies available on request

7.0

Which magazine offers top verifiable market coverage?

A

F. W. Dodge Corporation's Dodge Reports document Architectural Record's coverage of over 85% of the total dollar value of all architect-planned building including 94% of the nonresidential building, 75% of the residential building.

SOURCE: State Cheeks of Architect Activity

5.Q.

Which magazine publishes most editorial pages?

Architectural Record. In 1956
Architectural Record published
1,481 editorial pages; Progressive Architecture 1,051;
Architectural Forum 1,048.

8.0

In which magazine do advertisers advertise most?

A

In 1956, Architectural Record carried 41% more advertising pages than the second magazine; 68% more than the third magazine. Architectural Record ranked 4th among all monthly magazines in the U.S. in advertising page volume.

Sounce: Industrial Marketing

6.Q.

Which magazine leads in quality of editorial content?

A.

Architectural Record has won 36 awards for editorial excellence including 5 out of 6 awards to architectural magazines by the American Institute of Architects. 9.0,

In which magazine can we reach architects and engineers most economically?

A

In Architectural Record with a cost per page per 1,000 of \$22.52. (Progressive Architecture \$24.27; Architectural Forum \$46.61.)

If there are questions you would like to ask us about Architectural Record, its architect and engineer subscribers or the market it serves, we would welcome the opportunity to answer them. Please phone us or drop us a line.

Architectural Record

"workbook of the active architect and engineer"

119 West 40th Street - New York 18, N. Y. - OXford 5-3000



MAGAZINES AND BOOKS:

Architectural Record College and University Business Dodge Books The Modern Hospital The Nation's Schools The Record & Guide

THE RECORD REPORTS

(Continued from page 324)

27ff Eleventh Triennale di Milano; international exhibition of modern decorative and industrial arts and of modern architecture; until November 4 — Milan

29ff World Conference on Prestressed Concrete and third annual meeting of the Prestressed Concrete Institute; sessions jointly presented by the University of California and the Institute; until August 2 — Fairmont Hotel, San Francisco

August

5-12 Fourth International Conference for Students of Architecture — Copenhagen

11-15 First National Conference on Applied Heat Transfer, sponsored by Heat Transfer Division and Central Pennsylvania Section, American Society of Mechanical Engineers in cooperation with College of Engineering and Architecture, Pennsylvania State University — University Park, Pa.

18-23 The 1957 Congress of Correction, annual convention of the American Correctional Association — Morrison Hotel, Chicago

OFFICE NOTES

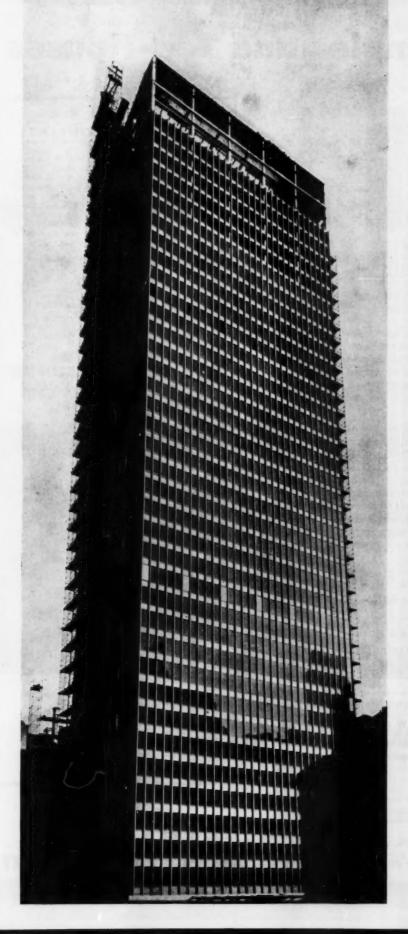
Offices Opened_

- Herbert L. Bogen, A.I.A., announces the opening of his offices at 83 Newbury St., Boston, Mass., for the practice of architecture and planning.
- The Hugh Carter Engineering Company, a new consulting firm, has established offices at 222 Atlantic Ave., Long Beach, Cal. Mr. Carter was formerly Senior Design Engineer with the Los Angeles architectural firm Pereira and Luckman.
- Richard Haag Associates, Site Planners, Landscape Architects, have opened offices at Pier 18, the Embarcadero, San Francisco 5, Cal.
- Wallace Holm, A.I.A., and Associates (formerly Butner, Holm & Waterman) announce the establishment of offices at 321 Webster St., Monterey, Cal.
- Smith-Voorhees-Jensen-Silletto, Architects Associated of Des Moines, have opened offices in the Badgerow Building, Sioux City, Iowa. Architects Allen B. Salisbury and Glenn E. Lundblad will be in charge.

Firm Changes_

- H. E. Bovay Jr., Consulting Engineers, have announced the merger of their firm with Reg F. Taylor, Consulting Engineer-of Houston. The new firm, which will retain the name H. E. Bovay Jr., Consulting Engineers, has offices in Spokane and Baton Rouge.
- DeWitt, Poor & Shelton, Architects, have named Mario Campiolo head of their Washington office, at 425 13th St.
 Mr. Campioli was Director of Architecture of Colonial Williamsburg.
- W. D. Harper & Sons, Architects and (Continued on page 332)





38 stories high -and it's bolted!

You're looking at the 38-story Seagram Building, at 375 Park Avenue, New York—presently the nation's tallest office building to employ high-strength bolting. The bronzeclad beauty, trimmed with tinted glass, occupies the blockfront between 52nd and 53rd Streets. Approximately 190,000 Bethlehem High-Strength Bolts were used in joining the structural members of its 13,447-ton steel framework.

With Bethlehem High-Strength Bolts so easy to install, the erection of the steelwork was completed in slightly less than six months of actual working time. Moreover, because of the lack of construction noise, as compared with riveting, the structure was recipient of New York's "Quiet City Award."

Bethlehem High-Strength Bolts save erection time because they can be installed quickly with a holding wrench and a pneumatic impact wrench. They provide joints which are permanently tight. They also promote safety as there's no fire hazard involved, nor any danger of injury from tossed rivets.

Bethlehem High-Strength Bolts are made of carbon steel. They are heat-treated by quenching and tempering, and meet every requirement of ASTM Specification A-325.

If you have any question about Bethlehem High-Strength Bolts, feel free to call the nearest Bethlehem sales office. Or if more convenient, drop a line to us at Bethlehem, Pa.

Architects: Mies van der Rohe and Philip Johnson, Associate Architects: Kahn & Jacobs; Structural Engineers: Severud-Elstad-Krueger; Mechanical Engineers Jaros, Baum & Bolles; General Contractor: George A. Fuller Company; Renting and Managing Agent: Cushman and Wakefield.

> BETHLEHEM STEEL COMPANY BETHLEHEM, PA.

On the Pacific Coast Bethlehem products are sold by Bethlehem Pacific Coast
Steel Corporation Expart Distributor: Bethlehem Steel Expart Corporation

BETHLEHEM

STEEL



superb photographs, thought-provoking text

Japanese Temples and Tea-Houses

by Werner Blaser



A prize-winning Swiss book, now available for the first time in the English language. Japanese Temples and Tea-Houses is an exquisite collection of brilliant photographs (several in full color) and drawings of classic examples of Japanese architecture. The text is a thoughtful, penetrating study of the historical, spiritual, and social elements which provided the inspiration for these structures, and which underline their significance in today's world.

The book is the result of Blaser's trip to Japan, made with a grant from the Swiss Federal Government. It studies 30 Japanese temples, palaces, and tea-ceremony buildings, dating from the 16th and 17th centuries, when this form of architecture reached its zenith. Each is depicted in several illustrations, and the particular significance of each is explained. Emphasized is the integration of the exterior and interior of a Japanese building, as well as the unity of its purpose, structural form, and material. Blaser is convinced that early Japanese architects, who were both artisans and priests, were unbelievably successful in capturing spirituality in their buildings. He is also convinced that therein lies a very important lesson for Western architects.

156 pages, large 9½ x 12½" size
Over 90 vivid photographs (8 in full color)
21 sketches and plans
Printed in Switzerland on finest stock
Bound in cloth with beautiful 4-color jacket

\$12.75

DODGE BOOKS, F. \	W. Dodge Corp	oration, 119	W. 40th	St., N.	Y. 18,	N. Y	ľ.
-------------------	---------------	--------------	---------	---------	--------	------	----

Send me _____ copies of Japanese Temples and Tea-Houses @ \$12.75 each. After ten days I will either remit the price plus a few cents postage, or return the book without cost or obligation.

NAME			
ADDRESS			
CITY	ZONE	STATE	

My check is enclosed. Same return privilege, Dodge pays postage.
 Please send free catalog.

0.40

OUTLINE OF CONTENTS

INTRODUCTION • significance of Japanese temples and tea-houses in the world today • origin of tea-ceremony: Buddhism and Shinto-ism • layout of the temple compound • the priest as an architect • Japanese concept of space • tatamis (straw mats) as "modular coordinates" • the takonoma—a sanctuary for the display of a sacred scroll • the garden • man and nature in Japan • comparison of the architecture of Mies van der Rohe with the Japanese.

ZEN BUDDHIST TEMPLES AT KYOTO

Ginkaku-ji, Silver Pavilion, 1483
Tokyu-do in the Ginkaku-ji, 1483
Muro-ji near Nara, 9th Century
Residence of the Abbot of Daitoku-ji, 1636
Koho-an Hermitage, 1612 (rebuilt 1793)
Sangen-in sub-temple, ca. 1810
Manju-in Temple Hermitage, 1656
Saiho-ju Moss Garden, ca. 1340
Ryoan-ji Rock Garden, 15th Century

TEMPLES AND DWELLING-HOUSES AT KYOTO

Temple Dwelling-House Daigo-Sambo-in, 1598–1602 "Tea-house of Pines in the Moonlight", 1818–1829 Myoki-an, 16th Century Ryokaku-tei of Ninna-ji, ca. 1700

TEA-CEREMONY SCHOOLS AT KYOTO

Ura-senke Omote-senke

IMPERIAL VILLAS AT KYOTO

Katsura Palace, Kyoto, 17th Century Gepparo Manjii-tei Shokin-tei O-machiai Shugaku-in Palace, Imperial Summer Villa, 1629 Jugetsu-kan Rin-un-tei Kyusui-ken Farmhouse at Arashiyama

PALACES AT KYOTO

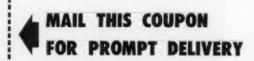
Nijo Castle, 16th Century Imperial Palace, Kyoto, 794 Kojo-in

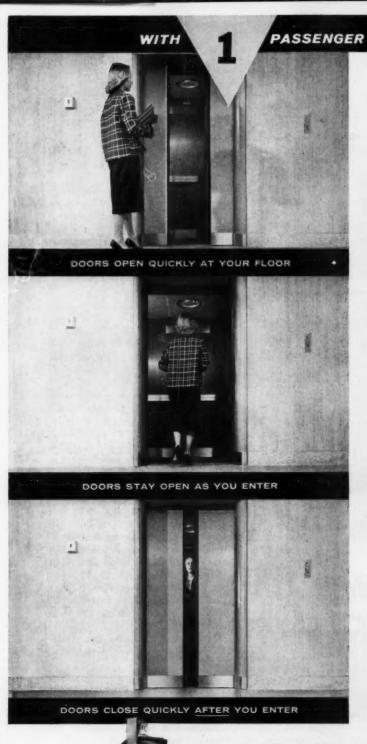
SHINTO SHRINES

The Ise Shrine at Uji-Yamada near Nagoya Kamigamo Shrine, 1863

INDEX

SHORT BIBLIOGRAPHY

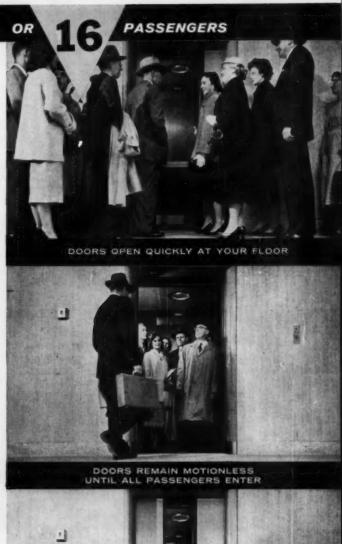




AT THE LIFE AND CASUALTY TOWER,

NASHVILLE, you can ride operatorless Westing-

house Elevators with Traffic Sentinel Doors.





DOORS CLOSE QUICKLY

DON'T LUNGE AT YOU!

Westinghouse Elevators with Traffic Sentinel Doors give dependable, operatorless service in hundreds of heavy-traffic buildings—including Nashville's landmark, The Life and Casualty Tower where above photos were taken. These elevators avoid delays because they adjust automatically and instantly to changing traffic pattern demands.

Doors open promptly—then Traffic Sentinel keeps them absolutely motionless until every passenger is aboard, be it one or many. Never a lunge —never a premature closing. There's a measurable saving in time . . . definite savings in operating costs, too. Ask your nearest Westinghouse Elevator representative for full details.

YOU CAN BE SURE ... IF IT'S

Westinghouse

J-987438

THE RECORD REPORTS

(Continued from page 328)

Engineers, have appointed W. Ray Mercer associate architect in the firm. Offices are at 327 W. Palmetto St., Florence, S. C.

 Andre Merle Associates, Consulting Engineers, have opened a branch office at Hunting Towers East, Alexandria, Va. The new office will be under the direction of Ken Merle McJunkin.

 Murray-Jones-Murray, a new partnership formed by David G. Murray, A.I.A., Robert Lawton Jones, A.I.A., and Lee C. Murray, A.I.A., will succeed the firm of David G. Murray and Associates. Offices are located at 4238 S. Peoria, Tulsa, Okla.

- Henry W. Obojski, Architect, has joined the staff of the National Carbon Company of Cleveland, Ohio.
- Julian and Richard Roth, principals in the firm Emery Roth and Sons of New York, have admitted to partnership Irving E. Gershon, chief designer; Harry J. Harman, in charge of planning; and Estelle Beal, executive secretary. At the same time, Victor J. Gorlach was made an associate.
- Wimberly & Cook, Honolulu architects, have become Wimberly & Cook,
 A.I.A., with George V. Whisenand,
 A.I.A., Associate; Mr. Whisenand was chief underwriter in the Hawaii office of the Federal Housing Administration.

New Addresses.

Warren H. Ashley, Architect, Crossroads Plaza, 740 N. Main St., W. Hartford, Conn.

Bedell & Nelson, Engineers, Inc., 1200 St. Charles Ave., New Orleans 13, La. J. A. Cawston and Associates, Architects, 346–23rd Ave. S.W., Calgary, Alberta

T. Frederick Jackson, Inc., 39–22 30th St., Long Island City 1, N. Y.

Lashmit, James, Brown & Pollock, Architects and Engineers, 865 W. Four and One-Half St., Winston-Salem, N. C.

Frederick Noyes A.I.A., (W. F. Noyes Jr.), 70 E. 56th St., New York, N. Y.

Karl J. Schmill and C. J. Hoffmeyer, Architects, Sidway Building, 775 Main St., Buffalo 3, N. Y.

Paul Tilds & Associates, Inc., Architects, 1021 Livernois Ave., Ferndale 20, Mich.

Rose, Beaton & Crowe — Engineers (formerly William A. Rose Associates), Coliseum Tower, 10 Columbus Circle, New York 19, N. Y.

Watterson & Watson, Architect, 174 Mineola Blvd., Mineola, L. I., N. Y.

ADDENDUM

After its Mid-May issue had gone to press, the Record was informed by architect Howard Juster that the story on the Gustave E. Rosenau house (pp. 136–39), credited to Davis, Brody & Wisniewski, Architects, should also have included his credit; Mr. Juster, formerly with Davis, Brody, Juster & Wisniewski, is now with the New York architectural firm Pomerance & Breines.

(More news on page 336)



Couch's new modular staff in-and-out registers located at key points instantly indicate which staff members are in the hospital. Just a flip of a switch by a reporting member illuminates his name tile at all register locations, informing hospital personnel of his presence. When leaving the hospital, a switch operated at any register extinguishes his name tile at all registers. For hospitals with message centers, flashing name tiles (message indicators) may be incorporated.

height-to-width ratios at competitive prices. Flexible grouping of unique plug-

in name-tile units requires less than half

the space used in other registers - with-

out sacrifice to name area. Name tiles and long life lamps can be quickly changed by

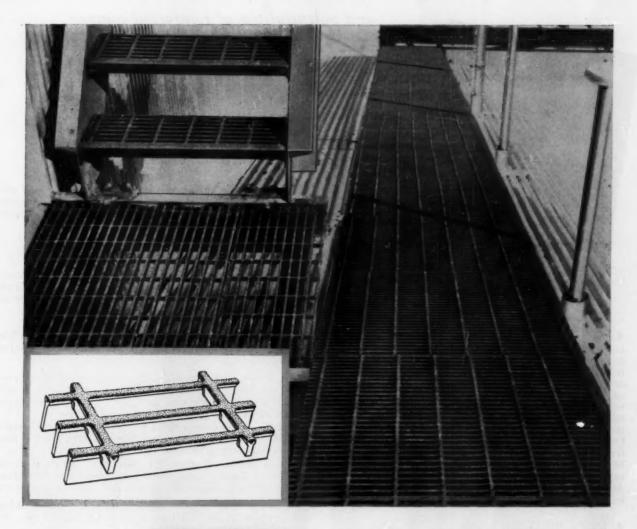
simply withdrawing the plug-in unit.

To see how you can have a custom-built register system at standard system cost, write today for Bulletin H9.

Simplified Systems of Communication

S. H. COUCH COMPANY, INC., NORTH QUINCY 71, MASS.





RELGRIT® provides safe footing on sharply sloping roofs at AEC St. Louis Plant

Reliance Relgrit gratings and treads are providing safe access to stacks, filters and other equipment across the 18° sloping roof of the AEC Feed Material Plant near St. Louis. The abrasive surface of Relgrit was picked as a truly non-skid surface for ramps, stairways and walks leading to equipment which had to be serviced frequently.

The top surfaces of the bearing bars have ½ deep V-grooves in which is embedded aluminum

oxide abrasive grains in a hard resin. The material is not affected by water, oil, gasoline, greases, or the most commonly used acids, alkalis and other chemicals, which gives it a long service life under the most severe conditions. If you have operations in which the floors become oily, greasy, wet, or slick from any other cause, Relgrit can provide safe footing at very low cost. Write for complete information and samples.

you can't slip on Relgrit

Reliance Steel Products Company

P. O. Box 510-F, McKeesport (Pittsburgh District), Pa.

Relgrit Abrasive Gratings and Treads • Lightweight Bridge Flooring Steel, Stainless and Aluminum Grating • Steel Mill Equipment a great engineer and builder explores the characteristics

and potentialities of reinforced concrete.



by Pier Luigi Nervi

translated by Giueseppina and Mario Salvadori

It is not simply the magnificent structures Pier Luigi Nervi has built and his daring innovations in the use of concrete that will make reading this new book an unforgettable experience. Even more, it is Nervi's rare creative insight into the entire design and building process.

ARCHITECT, ENGINEER, BUILDER, EDUCATOR

Nervi is one of the few remaining master builders — that vanishing group of practical visionaries who conceive, design, engineer, and build their own structures. From the very start of his career 40 years ago, he combined an excellent mathematical knowledge with brilliant intuition.

When his revolutionary designs began to try the knowledge and techniques of conventional contractors, he founded the now-famous firm of Ingg. Nervi e Bartoli in Rome, integrating architecture, structural design, and contracting under one roof. In addition to heading this firm, Nervi is Professor of Structural Design at the School of Architecture, University of Rome. He has designed and built some of the largest and most beautiful thin-shell concrete structures in the world. Among these are the Turin Exhibition Hall (362 x 312 feet), six airplane hangars (clear span 330 x 130 feet), many other factories, halls, and other buildings. Many of the buildings are constructed of Ferro-cemento, a new type of reinforced concrete developed by the author. All of these projects are fully described and pictured in this book.

A MOST UNUSUAL BOOK

STRUCTURES

Ranging in scope from mathematical formulae, to practical building methods, to aesthetic criticism of contemporary



DODGE BOOKS, F. W. DODGE CORPORATION 119 West 40th Street, New York 18, N. Y.

CITY

Send me copies of STRUCTURES @ \$6.95 each. After 10 days' use, I will remit payment plus a few cents postage, or return the book without obligation.

NAME	 	
ADDRESS		

☐ Check enclosed. Same return privilege, you pay postage.
☐ Send free Dodge Books catalog.

943

ar chitecture, STRUCTURES is difficult to describe in a few words. Different readers will find different things of value

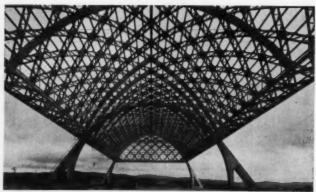
... If you are interested in the problems and techniques of reinforced concrete design and construction, you will find a wealth of practical data. Nervi talks concrete as no one else can.

... If you are interested in the aesthetics of architecture and in the philosophy of building correctly, you will find food for thought to last for years.

... If you are interested in one great man's story of success, failure, hope, doubt, experiment and invention, you will find yourself absorbed in this stimulating account.

In seven short, concise chapters, with over 100 striking illustrations, STRUCTURES is the summation of over 40 years of Nervi's experience.

118 pages in 71/4 x 97/8" size
Carefully printed on fine coated stock
Illustrated with 88 photographs and 25 drawings
Foreword by Mario Salvadori
Fully indexed
Bound in gray cloth with attractive jacket.
\$6.95



ORDER NOW FOR 10-DAY FREE TRIAL



ARCHITECT: "For an industrial building that's low in cost and yet a credit to my client—this is the material!"



BUILDER: "K&M Corrugated Asbestos can be put up fast, and with regular carpenter's tools."



FIRE UNDERWRITER: "Easy to approve, and often for minimum rates, since it won't burn."



MAINTENANCE ENGINEER: "Practically no upkeep—it won't rust or rot, and needs no protective paint."

"THEY ALL SAID K&M CORRUGATED ASBESTOS!"



"I listened to the testimony above and then decided on K&M Corrugated Asbestos for my new plant addition, at rock-bottom cost."

This wise owner learned that K&M Corrugated, for roof and curtain walls, is practically indestructible—it's made of asbestos fiber and portland cement, compressed under tremendous pressure. It fits 101 industrial applications attractively, without the cost of protective paint.

Tell your architect and/or builder you want K&M Corrugated Asbestos Roofing and Siding, to get low first cost, inexpensive construction, long life with little maintenance. For further information, write direct to us.



KEASBEY & MATTISON

Company • Ambler • Pennsylvania

THE RECORD REPORTS

PLANS ANNOUNCED FOR 50 ALCOA "CARE-FREE HOMES"

A design by Architect Charles M. Goodman of Washington, D. C., for "the Alcoa Care-Free Home" will be built in some 50 locations throughout the United States for public exhibition this fall, according to plans announced by the Aluminum Company of America.

Although the intent is to demonstrate



Now Double Safe Wardrobe Doors



NEW SAF-T-DOR WARDROBE

Rubber Door Moldings Safeguard Children's Fingers and Hands Completely.

Now there's double door safety in Emco wardrobes. They open safely-can't pinch fingers in opening... and they close safely — with the new Saf-T-Dor Rounded Rubber Molding on each door closing edge.

Emco is now super safe in every way smoothly finished woods, rubber cushioned edges, no dangling overhead weights, no obstacles in the recess - and each door on its own hardware

the protection features that are priceless.

prevents bumping of door against door to pinch fingers, etc. So play it safe with Emco. Specify Emco Saf-T-Dor Wardrobes when you build or improve school rooms ... insist on wardrobes built by the safety pioneer in the field . . . and you'll get quality wardrobes installed by factory trained experts with

Emco Saf-T-Dor is available as optional equipment on all models of **EMCO** Receding or Pivoting Type Classroom Wardrobes.



FREE BROCHURE. Write for catalog and name of your EMCO representative. No obligation, of course.

MANUFACTURING CO., INC. 1400 Spruce St. Dept. AR, Kansas City, Missouri

mounted on door edges. Neutral finish blends with

In Canada: Address Boileau-Fergusson, Ltd., 381a College St., Toronto 2B, Canada



both the esthetic and functional possibilities of aluminum as a material for residential construction, the house is "not an aluminum wonder house," says the Alcoa announcement: "rather, Architect Charles M. Goodman has combined many materials, among them wood, glass, steel and brick, to create a dwelling unparalleled for beauty, spaciousness, carefreeness and liveability."

Aluminum is used for roof and ribbed exterior wall panels, hinged grills over the windows, front door and framing for the sliding glass doors which open onto the patio; also insulation is aluminum foil-backed.

The house will have 1900 sq ft of floor space, planned with the requirements of last year's well-known Women's Housing Congress in mind. It has a family room separate from the living room, a central kitchen, a dining area adjacent to but separate from all of these, three bedrooms, two baths, heater room, 228-sq-ft storage-workroom and two-car carport. Bedrooms, the master 12 by 15 ft, the other 12 by 12, overlook an enclosed

The house is post and beam construction on a slab foundation. The L-shaped wall in front is brick.



(Continued on page 342)

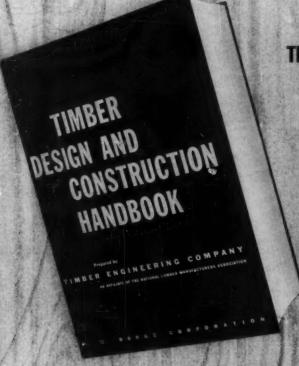


Ric-wiL factory prefabricated piping systems, timed to your schedule and shipped directly to the job site, can save you valuable time and money. Insulated units are available for steam, hot water, oil, other viscous fluids, process liquids and refrigeration lines... and remember... Ric-wiL is the quality system of exceptionally high mechanical strength and thermal efficiency.



NEW — the only complete master handbook of Timber Design and Construction!

943



SPECIAL NEW MATERIAL OF VITAL INTEREST AND VALUE Much of it never in print before!

Complete discussion of preliminary design considerations
Comprehensive coverage and examples of truss types and peopertions
New data on glued-laminated and Lamella arch design
New data on composite timber-concrete decks
New data on moment-resisting splices
Complete material an plywood design and use
Special section on fabrication, assembly and erection
Outlines and discussion of specification forms
Complete design standards and specifications for thousands of
applications
Complete data on timber connectors in all possible applications

COMPLETE TIMBER DESIGN DATA AND REFERENCE MATERIAL ON:

Wood Properties Commercial Lumber Standards
Prefilminary Design Considerations Post-and-beam Construction
Roof Trusses Arches Special Framing Exterior Structures
Ptyweod Fabrication Erection Assembly Maintenance
Specification Forms Stress-grade Lumber
Fastenings Timber Connectors Poles and Piling

Dodge	Books,	F.	W.	Dodge	Corporation
-------	--------	----	----	-------	-------------

119 West 40th Street, New York 18, N. Y

Send my copy of TIMBER DESIGN AND CONSTRUCTION HANDBOOK immediately. Within 10 days I shall send you \$12.75 plus postage or return the book without obligation.

Anne.	 0 0	9	0 0	0	0 0	0	0 0	0	9 9	0	9 6	 9 (0 0		0.9		0.4							 0			0 0					9
Address									• •			 		• •				• •		• 1		•				• •				 			4
City	 							 				 	 		z	ov	18		 		 		Se.	mi									

My check for \$12.75 is enclosed. I pay no postage and have the same 10-day return privilege.

TIMBER DESIGN AND CONSTRUCTION HANDBOOK

Prepared by Timber Engineering Company, engineering and research affiliate of the National Lumber Manufacturers Association.

Timber Design and Construction Handbook is truly indispensable to anyone concerned with wood design and construction. Serves two definite purposes: It is a comprehensive timber design reference, and it is also an extremely practical field handbook. Offers every piece of essential information needed to develop and construct the best, most economical wood structures.

THREE MAIN SECTIONS - EACH A BOOK IN ITSELF

Section 1, Basic Properties, is a detailed study of the fundamental structures and characteristics of wood, It covers types, grades, and ways of preservation which enable the designer to obtain maximum efficiency and economy from his material. Section 11, Design, explores and analyzes preliminary considerations, general design procedure, design details, fabrication and erection. This new, detailed information has never before been available in print. Section 111, Design Standards, provides design and engineering specifications and tabular data in simplified form, allowing easy conversion for particular grades and species. Here is a concise, practical tabular reference to fit the many combinations of grade, span, and loading.

RESEARCHED AND WRITTEN BY EXPERTS

In preparing this vital new work, 25 leading specialists of recognized professional ability in lumber, wood products and allied industries have contributed their experience, working as authors, advisors and editors. A special 9-member editorial committee, which included staff members of the Timber Engineering Company, exhaustively reviewed and edited the material into the eminently practical form in which it appears in this book.

CONTAINS ONLY TESTED, PROVEN INFORMATION
622 PAGES — 6 × 9 INCH SIZE
ANSWERS THOUSANDS OF TIMBER DESIGN AND CONSTRUCTION
PROBLEMS

MUCH VITAL NEW MATERIAL NEVER BEFORE IN PRINT DETAILED TO-PAGE MASTER INDEX FOR QUICK, CONVENIENT REFERENCE

OVER 360 TABLES, CHARTS, PHOTOGRAPHS AND DRAWINGS CAREFULLY PRINTED ON EXCELLENT PAPER BOUND IN CLOTH WITH OUTER JACKET INCLUDES SPECIAL 8-PARE GLOSSARY

ORDER YOUR COPY TODAY



This dynamic new area-illumination system brings your own individuality into interiors

Sylvania introduces Sylva-Lume

wall-to-wall lighting system



can be changed easily, if desired, by re-arranging panels and baffles . . . to tie in with overall interior décor changes. Announcing Sylva-Lume, a dramatic new achievement in wall-towall lighting, by Sylvania!

Sylva-Lume; a new tool for design, giving unique individuality of expression to the architect and illuminating engineer.

Sylva-Lume; a new concept in the field of area illumination—quality lighting that is "positively pleasant."

With new Sylva-Lume, the ceiling area has been rediscovered as the logical medium for the contemporary imagination. Unlimited freedom of design now lies at your fingertips. You can custom-create over 100,000 different lighting patterns . . . using only a few standardized components . . . based on 36-inch modules.

Sylva-Lume brings more of you, your own individuality, into your interiors. Organize its elements of color, light, and form . . . get pattern, texture, mood and style, as you wish.

This dynamic new lighting system was developed by a creative group, for a creative profession. Sylvania engineers assisted by Peter Muller-Munk Associates, noted industrial designing firm, brought this artistically conceived creation into the realm of engineering practicality. Write direct for folder of complete information.

SYLVANIA ELECTRIC PRODUCTS INC.

Department G2

Lighting Division – Fixtures
Onc 48th Street, Wheeling, W. Va.

SYLVANIA *

... fastest growing name in sight

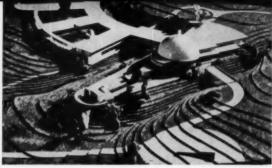
LIGHTING .

ADIO . ELECTRONICS

The life and works of the great romantic architect







219 pages, large 7 ½ x 10 ¾ size

Fully illustrated with 136 photographs and 176 drawings

Detailed 9-page index for immediate reference

Includes a special 3-page bibliography on Mendelsohn

Bound in cloth with outer jacket

Two essays by Mendelsohn himself included in appendices

\$9.85

ERIC MENDELSOHN

(Revised 2nd Edition)
by Arnold Whittick

"The reason that I conceived the idea of writing this book at all was because Mendelsohn seemed to me to be, more than any other, the representative architect of the age... because in his work one finds the most convincing expression of the fundamental characteristics of modern life."

Thus Arnold Whittick, prominent English student of architecture and author, prefaces this new work, a definitive study and evaluation of the creative life of one of the outstanding architects of the 20th century. In this new, revised edition, Mendelsohn's work from 1938 to the time of his death in 1953 is fully treated for the first time in any book.

Here is the most exhaustive and authoritative biography of Eric Mendelsohn ever published. With a contagious liking for his volatile subject, the author completely traces Mendelsohn's architectural development through his designs of commercial, religious, industrial and residential structures throughout the world. Over 300 photographs and drawings depicting every one of Mendelsohn's projects strikingly illustrate the genius



of this romantic architect — a genius which found its romance in looking to the future rather than to the past.

Beginning with Mendelsohn's childhood in a small East Prussian town, Arnold Whittick covers Mendelsohn's life in intimate detail. The entire span of Mendelsohn's career is presented — his early apprenticeship, the years of achievement in Germany, his fresh start in England after Hitler came into power, his contributions to the new architecture of Israel, and finally his life and work in the United States. From letters, from Mrs. Louise Mendelsohn, from friends and associates, and from Mendelsohn's designs and completed works, there emerges a rich, full portrait of the architect and his work.

DODGE BOOKS, F. W. Dodge Corporation 119 West 40th Street, New York 18, N. Y.

Send me copies of Eric Mendelsohn at \$9.85 each. After ten days free examination I will remit payment, including a few cents postage, or return the book(s) without any obligation.

ADDRESS ZONE STATE

Send free catalog.

943

ONE OF MENDELSOHN'S WORKS

. . . . which include

Temples **Community Centers Factories Educational Buildings** Department Stores Houses **Apartment Houses** Showrooms Offices **Power Stations** Small Stores **Business Centers** Cometeries Recreation Centers Administration Buildings Theaters **Towns and Cities** Libraries **Hotels and Pavilions** Hospitals Research Buildings and Laboratories

ORDER NOW ON 10-DAY APPROVAL

OVERHEAD DOOR HOLDERS



that absorbs the shock of violent openings, avoids damage to glass, jamb, door, wall, hinges and other hardware and cuts down maintenance and repair costs.



hold the door open...

during heavy traffic—at school dismissal, factory or office "quitting" time or when the theatre lets out. Heavy wear and tear of continuous opening and closing of the door is avoided.



Wide choice of styles to meet varying budget and installation requirements.



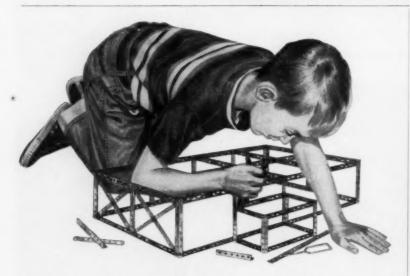
THE RECORD REPORTS

(Continued from page 336)

FLORIDA SHOPPING CENTER IS DESIGNED FOR ECONOMY

The South's largest shopping center, the 163rd Street Shopping Center in Miami, was completed in May with the opening of "Richards," its second department store. Architects were Gamble, Pownall & Gilroy of Fort Lauderdale; architect Meyer Katzman of New York was responsible for interior design of









Every piece fits perfectly . . . not a minute of lost erection time . . . just like precision fabricated steel by Haven-Busch. If you know steel construction, you know how much it means cost-wise to reduce on-the-job time and eliminate delays. You'll know, too, once you've tried it, that when you select Haven-Busch T-Chord* Longspan Joists, structural steel or miscellaneous building iron, the job will be done right and right on time.

*T.M. Reg.

SINCE 1888 . DESIGNERS . FABRICATORS . ERECTORS



HAVEN - BUSCH COMPANY

501 Front Ave., N.W., Grand Rapids, Michigan, Phone GL 9-4173

STRUCTURAL STEEL...T-CHORD LONGSPAN JOISTS... MISCELLANEOUS IRON







Richards and consulted with Gamble, Pownall & Gilroy on the exterior.

The \$15 million center was, the architects explain, "deliberately designed for stores in the popular, medium-priced field, eliminating frills in construction and decoration and non-essential, costly 'extras' such as cantilevered stairways and decorative fountains or statuary."

The center has a central mall nearly half a mile long, with Burdines' department store in the center, Richards' at the west end, nine major chain stores and about 50 satellites on both sides; parking for 4000 cars occupies 40 of the center's 50 acres.

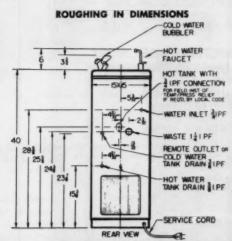
(Continued on page 346)

New General Electric Hot and Cold Water Coolers



Model RSH12

Where your plans call for water coolers, General Electric provides the up-to-the-minute answer. New General Electric Hot and Cold models not only supply a plentiful amount of cool water—they provide piping hot water for coffee and other instant beverages. Your clients will like the new General Electric Hot and Cold because it cuts coffee-break time considerably. It belongs in your plans for modern plants and offices. Easy to install—takes only 15" x 15" floor space. Handsome gray finish harmonizes with any decor.



HOT AND COLD PRESSURE TYPE (Model RSH12). Supplies 60 cups of piping hot water per hour—for coffee, tea, hot chocolate and soups—plus 13 gallons per hour of properly cooled drinking water. Other General Electric Models Available—include refrigerated compartment models and standard bottle and pressure types. General Electric Co., Commercial and Industrial Air Conditioning Dept., 5 Lawrence St., Bloomfield, New Jersey.

Progress Is Our Most Important Product

GENERAL ELECTRIC
In Canada, Canadia General Electric Co., Left., Montreal

Coming in July ...

GENERAL CONSTRUCTION COSTS

by Louis Dallavia

— TABLE OF CONTENTS

PREFACE

- 1. INTRODUCTION
- 2. EARTHWORK

Excavation • Compaction • Earthmoving

3. REINFORCED CONCRETE WORK

Form fabrication • Form erection • Placing reinforcing steel • Placing concrete • Concrete finishing

4. STRUCTURAL STEEL WORK

Steel erection with welded, bolted, and riveted connections

Types: Commercial buildings, Mill type buildings, Multi-storied buildings

5. MASONRY WORK

Brick • Clay tile • Glazed tile • Concrete blocks • Stone veneer • Ledgestone • Flagstone • Terra cotta

6. CARPENTRY

Rough carpentry • Finish carpentry

APPENDIX

Estimate form sheets for each type of operation

COMPLETE INDEX

The first estimating handbook ever published that cannot become out of date. Provides an accurate, foolproof method of estimating all direct production costs in earthmoving, concrete, masonry, steel, and timber construction. The tables on which the system is based have been developed and tested by the author during his 22 years experience as an estimator in building and heavy construction, and are unique in that they can be applied at any time or place with equal validity.

HERE'S HOW IT WORKS

Presents an index set of unit costs for typical shift crews against which you compare your own crews using special formulae. This gives you a productivity percentage. By checking that figure against only 3 tables, you arrive at shift cost, output range, and unit cost, from which you compute other expenses and finally the complete job.

Remember, no variable will ever make ESTIMATING GENERAL CONSTRUCTION COSTS obsolete. It is equally valid in Maine and California, during periods of inflation or deflation. This remarkable estimating system takes all variations into account.

BE AMONG THE FIRST TO USE THIS VALUABLE WORK

By filling out and returning the coupon below, you will be assured of receiving your copy as soon as the book is published next month. Because of our ten day free trial policy, you may put this book to work for ten days at our expense. At the end of that period, you either remit payment plus a few cents postage, or return the book without cost or obligation.

DODGE BOOKS, F. W. Dodge Corporation 119 W. 40th St., New York 18, N. Y.

Send me......copies of ESTIMATING GENERAL CONSTRUCTION COSTS immediately on publication. After ten days use I will either remit payment or return the book(s).

NAME.....

ADDRESS.....

CITY.....ZONE....STATE.....

Send free Dodge Books catalog.

043

220 pages, 6 x 9" size 160 tables and schedules tentative price \$6.95



MAIL TODAY FOR PROMPT SHIPMENT ON PUBLICATION



Hush-clip partition system rates sound transmission loss of 56.4 decibels

Now you can design for minimum transmission of sound from room to room, and do it at a reasonable cost—thanks to Penmetal's new HUSH-CLIP partition system.

Utilizing steel studs, track and gypsum plaster over metal lath, the system features a unique clip used in conjunction with a ¼" pencil rod. Because direct wall-to-stud contact is made only at point of clip, the area over which sound is transmitted is greatly reduced.

The sound loss rating of this combination is unequalled. Tested by a well-known independent research laboratory, the Penmetal HUSH-CLIP system recorded an average sound transmission loss of 56.4 decibels. (Complete test data furnished on request.) That isn't all. This new system offers the bonus advantage of resistance to plaster cracking. And, since all parts of the system are designed to fit together, the partition is easy and economical to erect.

No other partition system offers so many benefits in one assembly. Send for further information on the HUSH-CLIP partition.

PENN METAL COMPANY, INC.

General Sales Office:
40 Central Street, Boston 9, Mass.
Plant: Parkersburg, W. Va.
District Sales Offices: Boston, New York,
Philadelphia, Pittsburgh, Chicago, Detroit,
St. Louis, Dallas, Little Rock, Seattle,
San Francisco, Los Angeles, Parkersburg



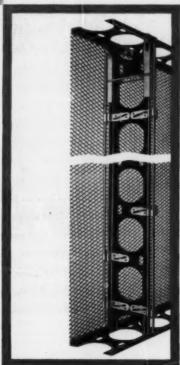
PARTS OF THE SYSTEM

STEEL TRACK — made in five sizes to fit over the flanges of the five standard studs.

STEEL STUDS — furnished in 2", 2\%", 3\%", 4" and 6" widths. Openings provide easy passage of pipe, conduit or cables without expensive chases. HUSH CLIP — can be clipped, wired or bolted to the steel stud, or can be nailed to wood stud.

PENCIL ROB—provides the vertical member to support metal lath. May be snapped into lip of clip, or wire tied to the outside of the lip, depending on the grounds required.

METAL LATH — Penmetal Meshtex, provides the ideal size openings for perfect keying of scratch coat with minimum use of plaster; maximum rigidity.



PM-126

THE RECORD REPORTS

(Continued from page 342)

PLYMOUTH OF 1627 REBUILT TO RECEIVE MAYFLOWER II

"Pilgrim Village," a painstaking replica of the Plymouth of 1627 — the year of its first "census" — is by now well under way on a site two miles south of Plymouth Rock, under the architectural direction of Charles R. Strickland of Boston and the sponsorship of Plimoth Plantation Inc., a nonprofit group dedicated to the preservation of the



Service to Architects the way they like it!

GOR generations it has been the privilege of Pratt & Lambert to work closely with leading architects, on every type of building, in every important city or town throughout the United States and the Dominion of Canada.

Out of this experience has come a keen appreciation of the architect's point of view—his aspirations and his problems. Out of this, also, has come proficiency in serving architects the way they like to be served with prompt, complete, reliable information; with authoritative painting specifications; with color counsel that is sound, distinctive and consistent with both form and function.

You are invited to make full use of Pratt&Lambert Architectural Service. It is available to you—the way you like it—without obligation.

Please write your nearest Pratt & Lambert Architectural Service Department: 3301 38th Avenue, Long Island City 1, New York; 326 West 26th Street, Chicago, Illinois; 75 Tonawanda Street, Buffalo 7, New York. In Canada: 254 Courtwright Street, Fort Erie, Ontario.

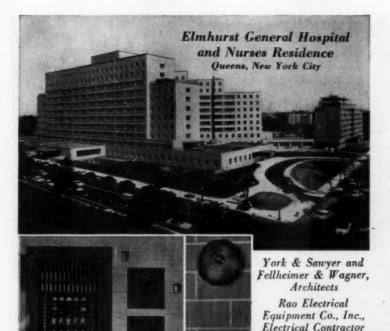






"magnificent Pilgrim heritage." All must be ready for the arrival of the Mayflower II, built in England as the gift of the people of Great Britain to the people of the United States, at its berthing place in Pilgrim Village. The reconstruction (see rendering), to be faithful to the last structural detail, will reproduce First Street and its 19 thatched dwellings; the Fort Meeting House; a trading post; a grist mill; and an Indian Village. Plymouth's First House and 1627 House (photo second above) and Fort Meeting House (construction photo third above) will be moved to Pilgrim Village. Photo showing typical structure is from recent exhibit in Plymouth.

(More news on page 352)



WHEELOCK

FIRE ALARM EQUIPMENT

in Prize Winning Hospital

First Prize Award was given to this 961bed hospital by The Chamber of Commerce of Queens Borough, N.Y.C. for excellence in building design. The recently completed hospital in Elmhurst is a replacement for City Hospital on Welfare Island. It is part of a vast program of hospital construction under supervision of the Department of Public Works, New York City.

The Fire Alarm System and its components which help safeguard the 961-bed prize winner were designed and manufactured by Wheelock Signals, Inc. Wheelock's 40 years of experience and association with engineers and contractors are reflected in this complex installation.

Write for Bulletin FA-7









There's more to a sound system

THAN SIMPLY GETTING ATTENTION!

it's **JOB ENGINEERING** that makes the difference between an <u>ordinary</u> installation

and a

DUKANE

integrated communication system!

Thousands of successful DuKane installations in FACTORIES, SCHOOLS, HOS-PITALS, HOTELS and CHURCHES are 'sound' testimony to the engineering perfection of DuKane Sound Systems.

DUKANE SYSTEMS OFFER:

- sound 4 paging
 alarm evacuation
 - time signals
 radio distribution
- alarm evacuation
 special control functions
 - or entertainment • nurses' call
- functions
 intercom
- private telephones

In each case, installations are engineered for the specific job, using DuKane mass-produced interchangeable component panels in the desired combination. Flexibility, moderate cost and accurate control of sound is the result. DuKane Sound Systems are sold and serviced by a nationwide organization of experienced engineering distributors.



SCHOOL &INDUSTRIAL SOUND SYSTEMS • FLEXIFONE INTER-COM • PRIVATE TELEPHONE SYSTEMS • NURSES CALL SYS-TEMS • MICROMATIC SOUND SLIDEFILM PROJECTORS and electronics for the armed forces.

	me the facts on how I can get ng' in a sound system.
DuKane Con St. Charles,	poration, Dept. AR-67 Illinois
NAME	
ADDRESS	
CITY	STATE

Leaders in Creative Communications

THE RECORD REPORTS REVIEWING THE RECORD

(Continued from page 346)

Footnotes to architectural history, from the Architectural Record of 1907:

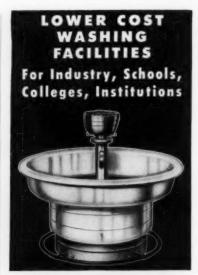
Architectural economy, as practiced by the unnamed architect of Our Lady of Lourdes Church in New York, reported in an Architectural Aberrations piece in the April RECORD, meant employing parts of razed buildings - in this case, the Italian Gothic façade of the old Academy of Design, the French Gothic rear wall of St. Patrick's Cathedral (torn down for the addition of the Lady Chapel), and buttresses from the Stewart mansion. The author made it clear, however, that he did not, in this case, consider the term "aberration" an invidious one. Despite some oddness in the appearance of the building, he nonetheless thought that "the aberration is a commendable and even exemplary 'departure from the customary structure in type."

Urban renewal, or civic improvement, as it was called 50 years ago, occupied a good deal of space in the April, May and June issues of 1907. In May came the announcement of more or less major plans for St. Louis, St. Paul and Boston, and in June a note on the final report. of the New York Improvement Commission; and there were a couple of complaints of San Francisco's failure to take advantage of its opportunity to use Daniel Burnham's plan. All of the plans were lauded, for their spirit if not always for their practicality, and the various writers took courage from observations made in South America at a

(Continued on page 352)



For Chinatown: a design from architects Meyers & Ward, of San Francisco, "for the treatment of buildings in Chinatown that would be Oriental in style, suitable for corner and inside lots . . ."



FIRST IN SANITARY WASHROOM FACILITIES



Bradleys provide major economies:—more wash-up facilities in less space, lower water consumption, and 80% savings in piping connections.

Foot-control eliminates all hand contacts except with the clean spray of running water. And the self-flushing bowl prevents collection of contaminating water, reducing chance of spreading Dermatitis and other infections.

You can install Bradleys in new or existing buildings, in main washrooms and various other locations for greater convenience. For complete specifications, write for Catalog 5601.

BRADLEY
WASHFOUNTAIN
CO.,
2227 W. Michigan St.,
Milwaukee 1, Wis.



Write for Catalog 5601

Distributed Through Plumbing Wholesalers



NEW MICROTEX DUCT LINER

saves cost of painting inside ducts; insures complete protection against air erosion; helps speed fabrication

Now you can get duct liner with high acoustical and thermal insulating efficiency...plus the moneysaving advantages of black vinyl coating. Here's why it pays to specify L·O·F Glass Fibers' new Microtex Duct Liner:

1. No painting duct interiors—Black vinyl-coated Microtex saves the cost of painting ducts inside, near grills or large registers. Factory-pigmented coating eliminates chance of paint flaking off into airstream.

2. Insures full coating—Its black vinyl coating marks the quality of L·O·F Glass Fibers' Microtex Duct Liner. Quality-control inspectors can see it's fully coated to resist air erosion, even at peak velocities.

3. Saves fabrication time—Pigmented vinyl clearly marks the air-

stream side of Microtex Duct Liner. Shows at a glance which side to apply toward adhesive before forming the sheet metal in the brake.

L·O·F Glass Fibers' Microtex Duct Liner offers maximum insulation per dollar. Made from fine glass fibers, it absorbs mechanical noises, particularly in the 250 to 4,000 cps range where most heating and airconditioning system noises occur. It efficiently insulates warm- and coldair ducts against heat transfer. When lined with Microtex, the metal of the duct acts as a vapor barrier, minimizing condensation.

Get the facts today on economical Microtex Duct Liner in 1½, 2 and 3 lb./cu. ft. densities. Contact your distributor, or write: L·O·F Glass Fibers Company, Dept. 79-67, 1810 Madison Ave., Toledo 1, Ohio.



L.O.F GLASS FIBERS COMPANY . TOLEDO 1, OHIO



HEAVY DUTY DOORS FOR EXTRA RUGGED USE

Schools and other High Frequency applications

Eighteen gauge steel doors and 16 gauge steel frames, ideal combination for long service use.

Sturdy enough to take the punishment school kids can dish out...yet easy to open. Simple to install and styled to please. Can be prepared for half-glass or vision panel and reinforced for single or double closure.

Can also be equipped with kick plates, louvers, air conditioning louvers or panic hardware. Shipped prime coated ready for painting.

Write today for complete information on the AMWELD LINE.



NEW! MUNTIN BARS Panel doors prepared for half-glass can also be supplied with muntin bars for 2, 3, 4, 6 or 9 panel light arrangements. Provides extra protection where light plus security are required.





BUILDING PRODUCTS DIVISION

ERICAN WELDING & MFG. CO.

Bonded "Electro-Sheet" Copper in CONCEALED FLASH **Gives Enduring Protection**

"Electro-Sheet" is pure thin copper produced by electro-deposition in long, wide rolls-in weights of from 1 to 7 ounces per sq. ft.

Durable and Economical - When bonded to other materials, for flexibility and easy handling, it provides a lasting product for concealed flashing and dampproofing uses at relatively low cost.

In a Variety of Forms - "Electro-Sheet" is furnished to manufacturers who bond it to high-grade building papers and fabrics, or coat it with asphaltic compounds. The finished products are available in long lengths, and widths to 60". For names of manufacturers, write: The American Brass Co., Waterbury 20, Conn. In Canada: Anaconda American Brass Ltd., New Toronto, Ont.

ANACONDA "Electro-Sheet"



This huge shipment, to Ford Motor Company's new Indianapolis plant, shows the way America's top industries use EMERI-CRETE. Pure Cortland Emery Aggregate-second only to the diamond in hardness-is the basic material of EMERI-CRETE. Our own mine supplies it. Our plants process it into carefully sized, shaped and graded particles. This strict quality control produces true heavy-duty flooring... skid-proof, non-brittle, non-rusting, non-absorbent, non-dusting. Complete specifications provided for every installation.

WRITE FOR FREE BULLETIN





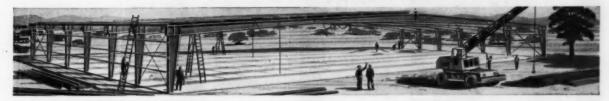
ALTER MAGUIRE COMPANY, INC.

Originators of emery aggregate flooring 60 East 42nd St. . New York 17, N. Y.

Producers of

EMERI-CRETE FLOORING * • EMERI-BRICK *

From the world's largest manufacturer of modular buildings comes a new building module with a roof pitch of only 1-12 and clear spans to 100-ft. wide



NEW-in modular design . . .



and architectural opportunities

Buildings as modules in themselves are a relatively new concept in architecture. This concept was further advanced recently with the addition of a new, low-profile building design to the existing line of Butler modular buildings.

The new Butler design is available in space modules commonly required for supermarkets, automobile showrooms, community buildings and many industrial plants. This enables the architect to work with a modern-appearing structural and roof system that is already engineered to meet his basic space requirements and applicable building codes. Around this loadbearing structural "core," the architect can apply the treatment that makes the building an individual, customized structure.

The load-bearing design allows the architect complete freedom in the selection and arrangement of curtain walls, fenestration and interior finishing. There are no interior columns, no unsightly roof trusses to contend with.

Structurals for the framework and aluminum or galvanized steel roof panels are mass produced by Butler. Their pre-fitted design speeds assembly of the building, saves construction time and makes more money available for architectural treatment. Routine engineering tasks are minimized. Architects who use this new modular basic building will be able to offer their clients an architecturally-treated building with the efficiency and luxurious spaciousness of a clear-span interior—and at a cost no greater than ordinary buildings with interior columns.

For details, contact the Butler Builder nearest you. He's listed under "Buildings" or "Steel Buildings" in the Yellow Pages of your phone book.





BUTLER MANUFACTURING COMPANY

7427 East 13th Street, Kansas City 26, Missouri



Manufacturers of Buildings • Oil Equipment • Farm Equipment • Dry Cleaners Equipment • Outdoor Advertising Equipment • Custom Fabrication Sales offices in Los Angeles and Richmond, Calif. • Houston, Tex. • Birmingham, Ala. • Atlanta, Ga. • Minneapolis, Minn. • Chicago, Ill. • Detroit, Mich. Cleveland, Ohio • New York City and Syracuse, N. Y. • Washington, D.C. • Burlington, Ontario, Canada



THE RECORD REPORTS

REVIEWING THE RECORD

(Continued from page 348)

recent conference of American Republics. "All through the winter," it was reported in the April Notes and Comments column, "there have been a succession of magazine articles by one correspondent and another, and a collection of exceedingly interesting and illuminating photographs . . . the revelation that cities of South America are far ahead of ours in beauty, dignity and general up-to-dateness has come with something very like a shock. And it is a shock that is sure to do us good. It can hardly fail to push along the improvement spirit now strong in the land; to give greater courage, confidence and hope to those who are planning for better urban conditions, and to convince the architect that his day of opportunity is just beginning."

Familiar ring department, from the April Notes & Comments section: "Despite the architect's continual clamor for professional recognition he seems to be working with all his might in a diagonally opposite direction. He is no longer the scholar of a half century ago, and tends more and more to force to the fore the purely business side of his activity, at the expense, it would seem of what he is ultimately striving after — respect and confidence to advise in matters where business skill cannot, after all, avail of much."

Concrete, again — this time the Terminal Warehouse in Kansas City (see cut below), reported by A. O. Elzner in the May issue. The architects, Anderson and Elzner, hailed the material for its fireproof qualities, and constructed a "monolith" using reinforced concrete for "foundations, columns, girders, beams, floors, roof, exterior walls, stair, penthouses and gravity tanks on the roof (Continued on page 336)





SPECIFY

BURT CENTRIFLOW FAN VENTILATORS

Choose from Two Q-U-I-E-T Centrifugals with P.F.M.A. Certified Ratings for

SCHOOLS - HOSPITALS
PUBLIC, COMMERCIAL
and INDUSTRIAL BUILDINGS

For high efficiency ventilation with quiet operation specify Burt Centriflow Fan Ventilators. Available in direct drive—a complete ready-to-install unit—and in V-belt drive. Motors from 1/12 to 7/12 H.P. 15 basic sizes. Capacities from 408 to 36,430 c.f.m. And every Burt Centriflow carries the P.F.M.A. label that GUAR-ANTEES its rating. Send for Data Book with complete details.



Send for FREE DATA BOOK SPV-12A

FAN & GRAVITY VENTILATORS .

The Burt Mfg. Co.

48 East South Street AKRON 11, OHIO

MEMBER POWER FAN MFRS. ASSN.

For the U.S. MILITARY ACADEMY a floor that passes daily inspection B.F.Goodrich Koroseal VINYL FLOOR TILE B. F. Goodrich Koroseal Floor Tile takes the abuses of barracks life in its stride, proves itself ideal West Point material. Where the appearance of floors is all-important, this rugged tile cleans in half the time, stays clean with just washing and buffing. "Builtin luster" helps keep it looking good as new, without extra surface finishes, even under the roughest kind of treatment. Give your next building the advantage of an easy-to-maintain floor by clearly specifying Koroseal, the most famous name in vinyl. SPECIFICATIONS: 20 new, distinctive colors (1/16", .080 gage and 1/8" thick-New "Agatine" Tile nesses), can be used on, above or below Rubber Tile grade. FOR FURTHER INFORMATION: See Sweet's or write B. F. Goodrich Flooring Asphalt Tile **Rubber Cove Base** Co., a Division of The B. F. Goodrich Company, Dept. AR-6, Watertown 72, Mass. Stair Treads Accessories B.F. Goodrich



The principles featured in this new standard of comfort heating are based on age old, basic laws of nature heretofore largely ignored in heating methods. Now these highly desirable principles and advantages are incorporated in the Burgess-Manning Radiant Acoustical Ceiling to provide a true radiating heat resulting in the closest to ideal, natural comfort at lower temperatures. It is the only method of heating to offer uniform heat from ceiling to floor with essentially no variation - elimination of drafts and concentrated heat sources -and highest efficiency in acoustic control. Other important advantages are:

- √ Lower operating costs fuel-wise
- √ Lower redecorating costs
- √ Negligible maintenance
- √ Smaller ducts and air handling equipment
- √ Lower building height
- ✓ Increased floor space thru elimination of standing radiators, convectors, etc., employed in systems for hot air distribution.

Many other important features, not mentioned here, are covered in a new, illustrated catalog—be sure to write for it

Architectural Products Division of

BURGESS-MANNING COMPANY

5970 Northwest Highway, Chicago 31, III.

Manufacturers of 3-Way Functional Ceilings and Acousti-Beaths for Telephoning



WITH
KENCO
SUBMERSIBLE
PUMP

Illustrated: NEW 5000 GPH MODEL 110 KENCO SUBMERSIBLE PUMP.

• Get all the facts at your Kenco Dealer or write us. If you design or use equipment to transfer liquids, investigate Kenco Submersible Pumps. Here are a few applications: handling bulk liquids—circulating machine tool coolants—refrigeration and similar pumping operations. Or automatic cycling—as in sumps, pits, vaults, septic tanks—is an advantage of Kenco Pumps with the exclusive Kenco NO-FLOAT switch. Check these advantages: compact • lightweight • portable • wide range of turn on points • easy to install • long life.



KENCO PUMP DIVISION
1305 Oberlin Avenue - Lorain, Ohio - Phone CHerry 5-8826

a MUST... in every modern HOME

the MOSLEY Television Lead-in Wall Plate Socket!

Now-more than ever, MOSLEY AC/TV Wall Plate Sockets are a true necessity in today's modern home building!

Complete mobility of TV set assures the buyer of versatile arrangement of furnishings in the new home!

MOSLEY Wall Plate Sockets permit plug-in connection of TV set to antenna in several locations through-out the home.

Any room can become a TV room...

Decor styling and low cost assure you sales appeal that will turn a prospect into a buyer!



Type AC-1PK. List Price \$1.87

Single TV socket for one antenna lead-in & matching plate for double convenience outlet. Complete with TV plug. In brown or ivory. Other types available.



● Low Cost! ● Easily installed to meet electrical codes! ● Decor styling to harmonize with existing wall plates! ● TV engineered for efficient performance!

MOSLEY TV Wiring accessories are available coast-to-coast. Write for name of your nearest supplier.

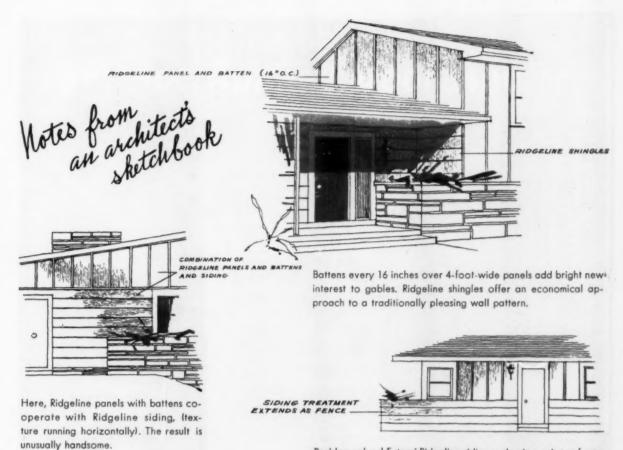


32c/8i Mo. Mosley Electronics, Inc.

Ask for

Catalog

No. A-138L



Problem solver! Extend Ridgeline siding and gain a privacy fence. Distinctive idea for accentuating long, horizontal lines.

A PANEL MATERIAL TO COMPLIMENT HOME DESIGN

MASONITE

RIDGELINE

The theme is consistent: an attractive, combed texture on a panel that's strong, impervious to weather and low in cost. Variations lie in the many ways you can complement your basic designs with Masonite® Ridgeline. Takes paint or stain equally well. Send coupon or refer to Sweet's Architectural File.

Masonite Corporation—manufacturer of quality panel products.



Meets Acoustica Perforated

is produce standard p perforated, is

RIGIDIZED

6156 Ohio Street, Cities

CORP.

METALS

in Principal



THE RECORD REPORTS

REVIEWING THE RECORD

(Continued from page 352)

for the automatic sprinkler system" (the last an unnecessary precaution, in the architects' view). To "preserve the character of the material," at a time when it had not occurred to designers that they might leave the concrete as the forms had left it, the exterior walls were "finished on the outside with a rich cement mortar splashed on with a paddle so as to give a rough finish."

An Indigenous Art was the plea of Chicago architect George W. Maher in the June 1907 issue of the RECORD. More than a little irritated with an unidentified "Eastern journal" and other critical sources which had commended such buildings as the Boston Public Library, the University Club and the Pennsylvania Railroad Station as "strongly American in style," Mr. Maher felt constrained to disagree. "We would in no wise depreciate or pass judgment upon these noble edifices in which the grandeur of the past is so illustriously brought before the eye," he wrote, but continued, "The truth in regard to the style of these respective buildings is manifest; they do not in the least represent an American art of civilization, but are pure and noble types for museum reference. It would be folly at this time to make a just comparison between the relative merits of the classic and a modern school of architecture. No one for a moment imagines the modern day creations yet rival in beauty these costly monuments, or that any effort yet put forth is wholly to represent the architecture of America. However, the efforts evolving from heart and mind of the artist who is striving to depict his day and generation is of ultimate value to posterity. Time alone must be the arbitrator in this momentous discussion. Posterity will utter the final word of either approval or disapproval." For Mr. Maher's expression of an indigenous art, see cut of the Farson house below.



(More news on page 360)

send for this brochure



giving complete specification data on heavy duty



DRAFT CONTROLS for industrial and commercial heating plants



the Field Type "M" for coal or oil,



and the Field Type "MG" for gas or oil-gas equipment sizes up to 32"

FIELD CONTROL DIVISION of H. D. Conkey & Company, Mendota, III.

AFFILIATES:
nco Building Products, Inc. • Brick, Tile, Stone
nco Materials Handling Div. • Cranes, Hoists

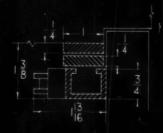
Surface Applied Door Holder

WITH AUTOMATIC

SERIES 190V

Spring-cushion stops opening action at 90° or 110° as required. Free acting slide does not hinder the efficient control of overhead or concealed checking floor clasers.

Control lever may be preset to hold door open. Tension of holding action may be adjusted to varying weights of doors and may be released manually or with a firm "push-pull."







SARGENT & GREENLEAF INC.

ROCHESTER 21, NEW YORK



SAFETY IS NO ACCIDENT
with
CLOSED DECK
Vertical Front
ROLL-OUT GYM SEATS

Specifically engineered for maximum safety so that lower over-all public liability rates are justified according to Safety Engineers of a leading insurance company.

FOR SPECIFICATIONS SEE SWEET'S CATALOG 23J
OR WRITE, WIRE OR PHONE

Hussey Mfg. Co., Inc., 577 R.R. Ave., North Berwick, Maine

CONTEMPORARY

HOUSES

NEED GOOD HOUSE IDEAS?

you must see

A TREASURY OF CONTEMPORARY HOUSES

by the editors of Architectural Record

Fifty architect-designed houses selected from plans of hundreds of new homes, designed by some of the world's leading architects.

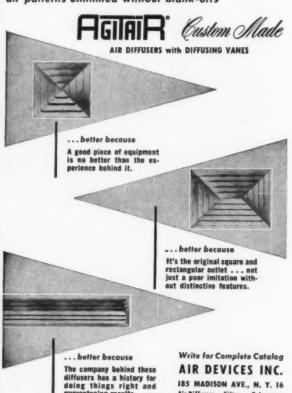
Each house is fully depicted in about 10 superb photographs and is complete with floor and plot plans, with some design details. Over 600 illustrations in all. New ideas in space utilization, floor layouts, room division, interior finishing, exterior treatments, builtins, window and doorway styling, landscaping. 215 pages, 8\% x 11\%, \$5.95.

Order today on 10-day approval

DEPT. 943

DODGE BOOKS.

119 West 40th Street New York 18, N. Y. air patterns unlimited without blank-offs





guaranteeing results.

Air Diffusers Filters Exhausters

Let's talk "SPECIAL SIZES"

Size and depth of sinks for laboratory and industrial use should be determined by the job they have to do—not by available standard sizes! With Alberene Stone sinks you can specify any size and depth—without paying a premium.

Alberene Stone is the natural silicate stone with the surface that goes all the way thru. Its all-silicate mineral components resist chemical attack. Low absorbency makes it essentially nonstaining. Discolorations can be removed by scouring or honing without harm to the surface. For information, address: Alberene Stone Corp., 419 Fourth Avenue, New York 16, N. Y.

ALBERENE STONE

provides LOW ABSORBENCY protection



Only four precast, prestressed concrete beams used in roof of 100' x 130' gymnasium

The roof of the Pryor High School gymnasium in Pryor, Okla. is supported by only four 100-ft. precast, prestressed concrete girders. These girders, at 26-ft. centers, carry 2-ft. by 26-ft. precast concrete roof channel slabs. Even the diaphragms are precast concrete.

Prestressed as well as precast concrete units were also used in the gymnasium seating. The L-shaped bleacher seats are precast concrete in 20-ft.-long units and are supported by 35-ft. prestressed concrete beams.

Prestressed concrete girders are ideal for long, unsupported spans such as used in gymnasiums and auditoriums. And they can be thinner than conventionally-reinforced girders

designed for the same load. Precasting girders and channel slabs saves time and money by reducing forms and using assembly-line methods.

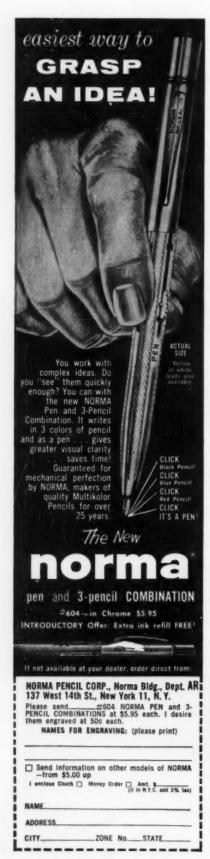
For more information on construction utilizing precast and prestressed concrete units write for helpful free illustrated literature. Distributed only in the United States and Canada.



PORTLAND CEMENT ASSOCIATION

Dept. A6-8, 33 West Grand Avenue, Chicago 10, Illinois

A national organization to improve and extend the uses of portland cement and concrete . . . through scientific research and engineering field work



THE RECORD REPORTS:

(Continued from page 356)



ARCHITECTURAL LOVE LETTER FROM EDWIN BATEMAN MORRIS

Edwin Bateman Morris has done another in the well-known series on architectural or other topics that strike the fancy and concern, or (as frequently) do not directly concern, the tile industry he loves. This one is a sort of birthday present from E.B.M. to the American Institute of Architects in its Centennial Year. In 42 pages it ranges the A.I.A.'s century in frankly personal commentary on matters practical and esthetic and in equally personal ink drawings of 36 buildings from the U.S. Capitol to the United Nations Building. As for the point of view, Mr. Morris says at the outset that he considers "the last hundred architectural years are by far the most interesting and important architectural years."



"Example of architecture at the beginning of the A.I.A. when architects, like doctors, could cover mistakes with ivy"

(Continued on page 364)



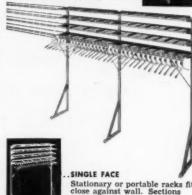




WALL RACKS

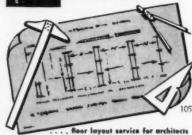
Basic 2' 2", 3' 2", 4' 2" and 5' 2" units mount directly on wall. Interlocking add-on sections make racks of longer lengths and greater capacity.







Stationary or portable racks fit close against wall. Sections snap-lock together to make rigid assembly that will not sag, wobble or creak.

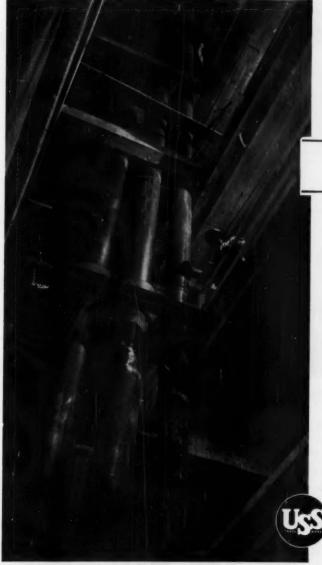


Let our cloakroom and checkroom specialists suggest equipment requirements and efficient layout. Just send outline of available space, capacity desired and nature of load. No obligations, of course

Write for Catalog Sheets, Dealer Sales Helps, CK-52

VOGEL-PETERSON CO. 1121 W. 37th St. . Chicago 9, III.

Ingenious air-conditioning system of Socony-Mobil Building makes liberal use of NATIONAL PIPE



NATIONAL TUBE DIVISION, UNITED STATES STEEL CORPORATION, PITTSBURGH, PA COLUMBIA-GENEVA STEEL DIVISION, SAN FRANCISCO, PACIFIC COAST DISTRIBUTORS UNITED STATES STEEL EXPORT COMPANY, NEW YORK

Architecta: HARRISON & ABRAMOVITZ Associated Architect: JOHN B. PETERKIN

General Contractor: TURNER CONSTRUCTION COMPANY Mechanical Engineers: JAROS, BAUM & BOLLES

This gleaming, 45-story, stainless-steel-sheathed building is the largest air-conditioned office building structure ever erected. Its remarkable air-conditioning system is powered by purchased steam, which is actually used twice. In the basement there is a refrigeration plant, consisting of 3 centrifugal steam turbine driven compressors of 2600-ton capacity. These 3 units are driven by steam turbines operating full condensing, with the exception of one which is a partial condensing and exhaust. This exhaust steam, by means of a 10-inch steam main, is tied in with the building's steam distribution system. This 10-inch main serves, during summer operation, all the steam requirements for the tempering coils in the air-conditioning system, as well as the steam required for three 500 Lithium Bromide Absorption Machines. In other words, the three 500-ton units act as a surface condenser for the exhaust steam-the building enjoying the economics of this ingenious piping layout.

Approximately 470 tons of USS NATIONAL Pipe -most of it Seamless-were used in the construction of the air-conditioning and heating systems. And at least 350 tons of NATIONAL Seamless were used in the huge building's plumbing system.

As is so often the case in designing complex plumbing and heating systems, the engineers se-lected NATIONAL PIPE. They knew from past experience that, no matter how rigorous the conditions, NATIONAL would do the job, and do it well.

If you'd like more information on the use of NATIONAL PIPE in plumbing and heating, air-conditioning and power installations-large or small, simple or complex-get in touch with us. Our experienced engineering staff is at your service.

POWER-STRUT Industrial and Research PARTITIONS



Economical - Flexible - Efficient

Power-Strut partitions are quality built, are low in cost, and can be quickly installed. They also may be dismantled with dispatch for rearrangement of rooms. Walls are designed for the convenient attachment of pipe, conduit, wire mold, blackboards, shelves, cabinets, benches, and almost any kind of apparatus.

A Pewer-Strut Sales Engineer will be happy to demonstrate with a visual sales kit, or write for Brochure (401-3.



POWER-STRUT, Inc.

CINCINNATI PHILADELPHIA NEW ORLEANS

ROSTON **NEW YORK** CHICAGO PITTSBURGH SAN FRANCISCO TORONTO MONTREAL VANCOUVER



FEWER SPRINKLER HEADS NEEDED

One Rain Jet covers the area of 5 ordinary heads.

HEADS TO WATER VARIOUS SHAPED AREAS
Square pattern head covers up to 25'x25'. Rectangular pattern
heads cover up to 5'x40' and 5'x25'. Full-circle heads cover areas up to 50' in diameter.

MAXIMUM PERFORMANCE AT LOW WATER PRESSURE
Rain Jet heads operate at 10 lbs. pressure. 30 lbs. pressure maxi-

mum required.

MINIMUM AND EASY MAINTENANCE
Rain Jet unit easily removed from casting and may be thoroughly cleaned on the job.

SMALLER PIPE SIZES CAN BE SPECIFIED

Lower operating pressures allow smaller pipe.

IDEAL FOR AUTOMATIC CONTROLS

Large areas can be covered with fewer valves.

HILLSIDES CAN BE WATERED WITHOUT EROSION Accomplished by Rain Jet's even distribution of drops of water from head to edge.

INSTALLATION PLANNING SERVICE AVAILABLE

Complete drawings made at no charge, if requested.

Available through plumbing supply jebbers

RAIN JET CORP, p. 38 Hollywood St.d. Los Angeles



Will you be to blame should power failure from any cause result in loss of life, serious accidents and costly property damage?

Protect yourself—and the lives and property of others by insisting upon the installation of a dependable Fairbanks-Morse standby power generator!

Fairbanks-Morse power generators are available in standby capacities ranging from 2 kw. to 100 kw.—AC or DC. They are available with line transfer, fully automatic, remote and manual controls. Diesel power generator sets up to 1700 kw. For complete details, consult your architect's files or write Fairbanks, Morse & Co., Dealer Div., Dept. AR-6, Chicago 5, Ill.

AIRBANKS-MORSE

a name worth remembering when you want the BEST

GENERATING SETS . MOWERS . MAGNETOS . PUMPS . MOTORS WATER SYSTEMS . SCALES . DIESEL LOCOMOTIVES AND ENGINES

there's so much to choose from at Hotel Cleveland?

What's your pleasure? Fabulous roast beef in Cleveland's first specialty restaurant The Rib Room. Dancing to a famous orchestra in the smart Bronze Room. Relaxing over a drink in the stag Men's Bar. You'll find

something to suit every taste and mood at Hotel Cleveland.

And you're in the very heart of town, close to business, shopping and theaters ... directly connected with Union Passenger Terminal.



THIS STEEL ERECTION CONTRACTOR SAYS:

"We were able to erect the steel for the Green Manufacturing Company plant and office 50% faster with V-LOK than ordinary steel and steel joists. We saved up to one-third on our erection costs, per square foot and the materials cost less also. Incidentally, the men liked the work better and we believe V-LOK produces a more rigid structure than ordinary erection materials."

Joseph O. Divell, Perry Truck & Erection Co., Erie, Pennsylvania

Roland A. Ketzel, General Contractor, Erie, Pa.



INTERLOCKING STRUCTURAL MEMBERS



EVERYONE BENEFITS WHEN YOU DESIGN WITH V-LOK

And the new Design Manual shown opposite has complete details of wall sections for every type of solid and window wall, plus representative framing plans and side elevations.

For the organization designing industrial or commercial expansion structures, this usable summary of all essential details will be most welcome. Drop us a card for your free copy. Turn down the corner of this page NOW.



STANDARDIZED STEEL BUILDING PRODUCTS

MACOMBER INCORPORATED

CANTON 1, OHIO

· ENGINEERING · FABRICATING AND ERECTING ·

NAILABLE
V BEAMS
V GIRDERS
V-BOWSTRING
TRUSSES
METAL DECK
V-LOK STEEL
FRAMING
STEEL JOISTS



Exaggerated picture? Sure... but any one of these shelving problems may be troubling you . . . sagging shelves, insufficient storage space, inflexible wooden shelving, poor layout. To solve these problems, call on your Deluxe steel shelving dealer. He will engineer efficient and flexible shelving racks of the sturdiest-built, best-designed shelving made.

These Deluxe features allow you to install Deluxe shelving at lowest cost:

- One-piece bin-type uprights for rigidity and fast erection
- Boltless, completely adjustable shelf brackets
- Snap-in dividers—for quick flexibility
- Factory-reinforced shelves to cut down installation time
- Coped shelf corners to increase storage capacity

Look for local dealer under Shelving in the yellow directory. Write to factory for "Shelving Reference Manual."

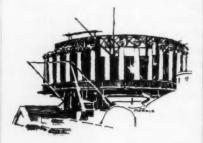


DELUXE

DELUXE METAL FURNITURE CO. Warren, Pa. A Division of Royal Metal Manufacturing Co.

THE RECORD REPORTS:

(Continued from page 360)



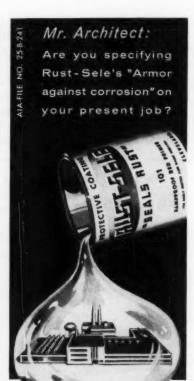
"Erection of present Capitol dome. Drawn from a photograph given to Congressional Library by Delos H. Smith. Note overhang of dome, today much discussed" (Thomas U. Walter, Architect)



"Trinity Church, Boston, 1873-75; H. H. Richardson, Architect"



"Nebraska Stale Capitol, 1922; Bertram Goodhue, Architect"



RUST-SELE

101 DAMPPROOF RED PRIMER

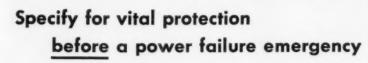
- Rust-Sele's specially processed fish oil vehicle—
- Insures maximum penetration and adhesion because of its unique "preferential wetting" characteristics.
- Insures a positive barrier against moisture, oxygen and industrial fumes.
- Insures an excellent surface for application of Rust-Sele's specialized finish coatings.
- Insures superior elasticity and durability. Eliminates premature failure caused by cracking, peeling or blistering.

Write today for independent testing laboratory report and specification catalog.

9809 MEECH AVENUE



KOHLER ELECTRIC PLANTS



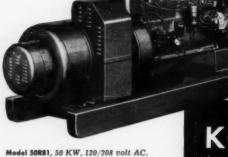
Storms or accidents may cut off central station power for days. Kohler stand-by electric plants take over critical loads automatically. Cost is often less than losses caused by a single power failure.

Food stores need Kohler plants for frozen food merchandisers, meat coolers, heating and lighting systems; hospitals for operating room and other essential lighting, nurses' call bells, and electrical equipment vital to patients' care. They prevent hazards of sudden darkness in schools, stores, theatres — and costly interruptions in hatcheries, greenhouses, countless enterprises. Civil defense units need them for first aid stations, fire and rescue trucks, mobile hospitals. Write for specification data 15-D.

Kohler Co., Kohler, Wisconsin. Established 1873

KOHLER OF KOHLER

PLUMBING FIXTURES . HEATING EQUIPMENT . ELECTRIC PLANTS. AIR-COOLED ENGINES . PRECISION CONTROLS



FROZEN

HEAR every word on the TELEPHONE

with a BURGESS-MANNING





Remote starting.

Now you can hear every word clearly over the phone—even right next to a noisy machine. Burgess-Manning "HEAR-HERE" Booths are acoustically designed to provide an "isle of quiet" in the noisiest place. Ideal for manufacturing areas, hotels, stores, depots, shipping rooms, etc.—a model especially suited to each location.

Different in many ways:

Write for Catalog - Bulletin

- Ne Noise—always quiet
- No Doors—always fresh air
- No Corners—to collect dirt
- No Glass—to break

PERFORMANCE GUARANTEED



Architectural Products Division of

BURGESS-MANNING COMPANY

5982 Northwest Highway, Chicago 31, Illinois

Manufacturers of 3-Way Functional Ceilings and Acousti-Booths for Telephoning

CONNOR

forest products since 1872

LAYTITE" birch FLOORING

has been first choice for gyms, playrooms and classrooms

0

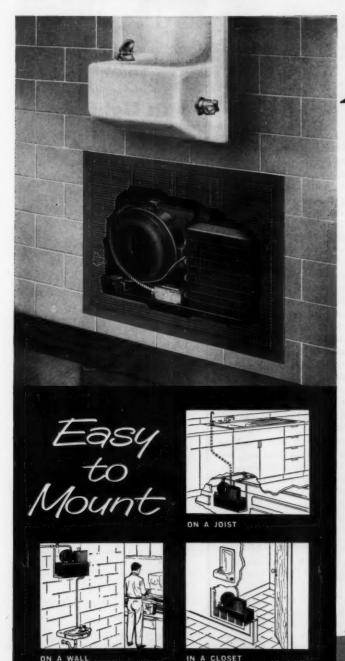
"CONTINUOUS STRIP", Blocks, Regular Strips and Slats

School and Gym Floors our specialty
MFMA grades and trade marked
See Sweet's file specs # 13J

CONNOR LUMBER & LAND CO.

P. O. BOX 810-G, WAUSAU, WIS. Phone No. 2-2091

NEW OASIS WATER COOLER





The "nod of approval" comes quickly when you specify an Oasis In-A-Wall Water Cooler. Neat, compact, efficient, it meets every "built-in" requirement of any type of building...industrial, commercial, institutional, restaurant and residential. Solves the problem of custom designing a water cooling system. Leaves walls and corridors clean...uncluttered.

Serves from two to four remote drinking fountains, and supplies up to 10 GPH, sufficient for 120 people in offices and schools and 70 in light industry. It can be mounted on walls, in closets, on joists, and other supporting members. Carries a 5 YEAR FACTORY WARRANTY.

There's an OASIS Constellation water cooler for every need

A complete line of Oasis Constellation Series Water Coolers is available in capacities ranging from 2 to 35 GPH. Oasis pioneered the new Hot 'n Cold models that supply piping hot water for instant beverages—and cold water for drinking.



Specify Oasis—and you specify the most beautiful, most efficient water coolers available. Send for Oasis 4-color specification sheets and roughing-in drawings. Use the coupon below.

OASIS WATER COOLERS

The Ebco Manufacturing Company, Columbus 13, Ohio Manufacturers of the most complete line of water coolers DISTRIBUTED IN CANADA BY G. H. WOOD & CO., LTD.

MAIL COUPON FOR SPECIFICATIONS AND ROUGHING-IN DETAILS

Dept. 5-	D, Colu	mbus 13, (Ohio		
Send Oasi	s In-A-Wall	specifications	and	roughing-in	details.
name					
company_					
address					
city		zor	ne	state	



Do fasteners become a source of nagging annoyance to the user after your job is finished?

The way door knobs, cabinets, fixtures, metal window frames and other built-ins hold, has a lot to do with the user's satisfaction. For you, it may mean a boost-up in your professional reputation.

There's a sure and easy way to leave pleasant reminders in any building project that calls for screws or bolts.... Specify the use of fasteners made in the U. S. A. or better still, just specify "Fasteners by Southern". We make all the screws we sell—

- of the finest metals
- to rigid specifications
- in wide range of styles, finishes and sizes.

Write today for the story about Southern Screw Company, to Box 1360-AR, Statesville, North Carolina.



Wood Screws • Machine Screws & Nuts • Tapping Screws • Drive Screws • Stove Bolts • Carriage Bolts • Hanger Bolts • Dowel Screws

Warehouses:

NEW YORK • CHICAGO • DALLAS • LOS ANGELES Sold Through Leading Wholesele Distributors, in Leading Hardware and Building Supply Steres.

REQUIRED READING

(Continued from page 62)

PRESERVING OUR PAST

Tidewater Maryland Architecture and Gardens, By Henry Chandlee Forman, Architectural Book Publishing Co. (N. Y.), 1957. xv, 208 pp, illus. \$10.00.

Unfortunately, we Americans are far too careless about preserving our past—especially its lesser relics, which are often more important than famous shrines in revealing the lives of our forebears. This book should help awaken us to the tragedies being perpetrated on every hand by neglect and by the bulldozer.

Mr. Forman, a Maryland architect and historian, has accomplished the valuable work of preserving in print many of the buildings in his home state that are already irretrievably lost. In this volume, a sequel to his Early Manor and Plantation Houses of Maryland (1934), he depicts with precision - and affection - more than thirty houses built before 1800, also some gardens and churches. Mr. Forman's many drawings and photographs vividly illustrate the five architectural styles into which he divides the buildings: the traditional Georgian, plus Medieval, Jacobean, Transitional, and Hangover (the latter is used to modify any of the others). Incidentally, the author does not neglect the inhabitants of the buildings; anecdotes about them are scattered through his text.

The book has some of the defects to which a personal compendium is particularly prone: it is unequal in interest, and all but the most dedicated of Mr. Forman's fellow-antiquarians may find it repetitious and a trifle querulous. Yet if Mr. Forman's book helps to save even a few of Maryland's old houses, his work is valuable.

PLANNING CHURCH INTERIORS

The Changing Church. By Katharine Morrison McClinton. Morehouse-Gorham Co. (N. Y.), 1957. 144 pp, illus. \$7.50.

This book is intended more for clergymen and building committees than for architects. Yet it contains a great deal of concrete information. Architects might find it primarily useful for preliminary reference and for recommending to clients, particularly as one of the author's principal aims was to create a demand for better design.

Mrs. McClinton, a painter and art critic who specializes in church decoration, devotes only the first three chapters of the book to church architecture. She then takes up in detail such matters as floors, furniture, lighting, altars, organs, sacristies, and textiles.

P. C. F.



for *Flexibility*In Lighting
Installations



CANOPY UNITS

are available in 1-, 2-, 3- and 4socket units—all with fingertip positioning of lamps to any angle. Removable hoods have lustrous, lasting finish, air flow ventilation.

CANOPY EXTENSION UNITS

Complete pre-assembled Canopy Units with 6" to 60" Straight, 12" to 24" Curved or 12" to 36" Flexible Extensions; Standard or Midget Hoods.





BULLDOG TROLLEY and WIREMOLD UNITS

Completely assembled Swivelite Socket Units for horizontal or vertical Bulldog Trolley Ducts. Types for #2100 and #3000 Wiremold Raceways.

Recommend amplex LAMPS for amplex FIXTURES

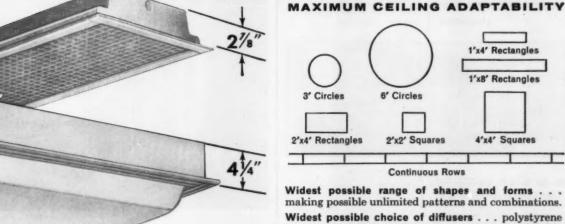
Colorbeams for dramatic accent lighting; Spotlites and Floodlites for indoor or outdoor service; 2,000 hour incandescents.

For descriptive literature on Amplex Swivelites and complete line of incandescent and fluorescent lamps, write

amplex

CORPORATION
Dept. AR 6-57
111 WATER STREET
... BROOKLYN 1, N.Y._

Troffers of AL



making possible unlimited patterns and combinations. Widest possible choice of diffusers . . . polystyrene

louvers . . . plain formed acrylic . . . corning low brightness . . . curved corning lens . . . curved alba-lite . . . corning twinlens . . . flat alba-lite . . . metal louver ... pattern formed acrylic ... pattern formed vinyl.

Space variations . . . 21/8" "Thin," where ceiling economy is critical . . . 41/4" "Shallow," when limited space is available . . . 71/8" deep, when normal recessing depth is possible.

Workmanship . . . highest possible quality material, formed and assembled under unmatched inspection standards by top skilled craftsmen.

Sensible pricing . . . if quality luminaires could be produced and sold for less, LPI would be the one to

MAIL THIS COUPON TODAY

Don't just take our word for it! Convince yourself that LPI has the widest, most complete line of TROFFERS.

There is an LPI TROFFER-combination to solve any problem concerned with esthetics, space, light control and distribution, construction

	PRODUCTS INC. Dept. 7F Highland Park, Illinois
	iled information on LPI's complete line of Troffers.
Firm	
Address	

369



SINCE 1860

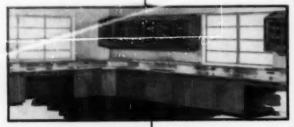
FOR MAXIMUM UTILITY MINIMUM MAINTENANCE

SPECIFY



Flexibility . . . permanence . . . economy. These are prime reasons Aloe MODULINE unitized steel furniture finds so much favor with architects and builders. Aloe MODULINE is flexible in function and arrangement, present in its all-welded construction, economical in initial cost and upkeep. Made in the makern Aloe factory, devoted exclusively to the manufacture of haspital and laboratory equipmant.

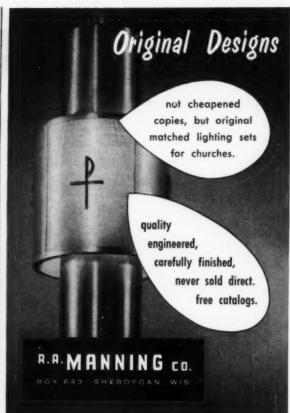
For laboratories, hospitals, selvois... wherever the best is cabinets and casework is called for ... more and more builders specify Aloe MODULINE. Write for free brochure. Dept. 100,



a. s. aloe company
1831 OLIVE ST., ST. LOUIS 3, MO.

14 FULLY STOCKED DIVISIONS COAST TO COAST







Design 6178

the first name in MAIL CHUTES

Gullen Hail Chule Go ROCHESTER 7, N. Y. in
plumbing drainage...
it costs no more
for the...



VERY BEST





ABSORBO tube and insert shown in normal position, before faucet or valve is opened. ABSORBO tube expands against insert as it absorbs shock and energy caused by sudden closing of valve or faucet, or sudden change in

As shock recedes, tube and insert return to normal positions as in figure at left.



series 1480

SHOCK ABSORBERS

ELIMINATE "WATER HAMMER"!

• Noisy, destructive water hammer is unpredictable—it will occur on the finest installations—it happens without warning on any water or liquid plumbing supply line—in schools, hotels, theatres, hospitals, institutions—and even in homes. Josam Shock Absorbers éliminate this disturbing noise, the possible damage to equipment, and destructive leaks in valves and connections. You get "hospital quiet" on all plumbing lines! Their cost is so little compared with the protection they provide, that Josam Shock Absorbers should be installed on every new and old piping system. Here again, it costs no more to use the best—in plumbing, you use the best when you use JOSAM! It costs less in the "long run".

Send coupon for free literature.



IOSAM MANUFACTURING COMPANY

General Offices and Manufacturing Division
MICHIGAN CITY, INDIANA

REPRESENTATIVES IN ALL PRINCIPAL CITIES

West Coast Distributors

JOSAM PACIFIC COMPAN'
San Francisco, Calif.

Canadian Manufacturers
JOSAM CANADA LIMITED
Terente, Canada

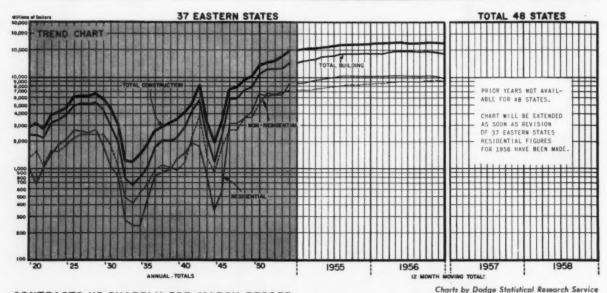
Jesum products are sold through plumbing supply wholesalers.

JOSAM MANUFACTURING COMPANY Dept. AR-6 • Michigan City, Indiana

Please send copy of Manual "5" on Water Hammer

Firm Business
by
Address

THE RECORD REPORTS: CURRENT TRENDS IN CONSTRUCTION

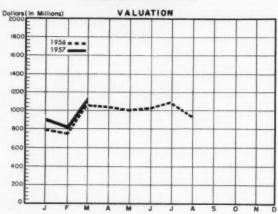


CONTRACTS UP SHARPLY FOR MARCH RECORD

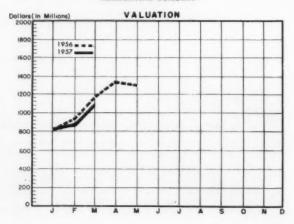
U. S. construction contract totals for March showed a sharp rise of 11 per cent over contracts for the same month a year ago, according to figures announced by F. W. Dodge Corporation. Despite a seven per cent drop in residential contracts, the \$3,077,997,000 total was the largest percentage increase recorded in recent months. Much of the rise could be attributed, said Dodge vice chairman Thomas S. Holden, to a number of unusually large contracts. Heavy engineering showed the greatest rise with a total of \$878,268,000 for a 69 per cent increase over March 1956. In nonresidential building, up three per cent with \$1,092,441,000 in contracts, hospital contracts showed a 100 per cent increase, while both manufacturing and public buildings were far below the totals for March 1956 (for details on another fast-rising field, apartments, see table below). Cumulative totals for the first quarter of the year, compared with the same period of 1956, show nonresidential at \$2,826,647,000 up nine per cent; residential at \$2,799,340,000 down five per cent; heavy engineering at \$1,912,573,000 up 14 per cent; and total construction at \$7,538,560,000 up four per cent.

Source: F. W. Dodge Corporation APARTMENT BUILDINGS Construction Contracts—Regional Comparison Valuation (in \$ thousands) 3 mos. 3 mos. % Region 1957 1956 change I (Boston District) - 47 2,413 4,588 (Buffalo, N. Y. C., Phila.) 69,733 46,738 + 49 (Atlanta, Birmingham) 24,703 + 44 35,641 IV (Cinti., Cleve., Pittsbgh.) 27,821 12,115 +13037,504 +131 (Chi., Detroit, Mplz.) 16.264 3.729 3,311 + 13 (N. Orleans, St. Louis) (Dallas, Kans. City) 6,450 16,488 - 61 (11 Western States) 85,523 46,807 + 83 **48 States Total** 268,814 171,014 + 57

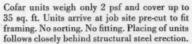
NONRESIDENTIAL BUILDING



RESIDENTIAL BUILDING









Welded in place, Cofar provides a safe, solid work platform for trades. Concrete crews move in days sooner. Cofar welding gives designers flexibility to meet local codes for lateral forces.



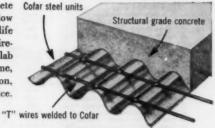
In monolithic slabs, Cofar offers composite action to resist concentrated loads and horizontal forces. For steel or concrete framing. Cofar underside may be painted for finished ceiling.

Cofar® combines concrete form and re-steel in one product. Saves time! Saves money!

Cofar units are deep-corrugated, highstrength galvanized steel sheets with "T" wires welded across the tops of corrugations. Cofar provides:

- (1) tight concrete form
- (2) safe work platform
- (3) complete positive reinforcement

"T" wires furnish necessary temperature reinforcing and anchor concrete to steel. Cofar units lap tightly, prevent concrete leakage and eliminate clean-up time below and are hot-dip galvanized for building-life permanence. When concrete sets, a fire-safe, high-strength reinforced concrete slab results. For more information about time, work and money-saving Cofar construction, contact Granco home or district office. ATTN: Dept. R-78.





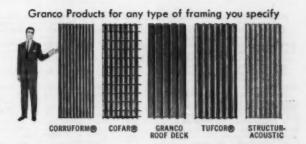
See our catalogs in Sweet's Architectural and Industrial Construction Files

GRANCO® STEEL PRODUCTS COMPANY

A subsidiary of GRANITE CITY STEEL COMPANY
6506 N. Broadway, St. Louis 15, Mo. Executive Offices: Granite City, Ill.

DISTRICT OFFICES: St. Louis • Kansas City • Cincinnati • Dallas • Hauston Chicago • Minneapolis • Atlanta • San Francisco

Distributors in 80 principal cities



INDEX TO ADVERTISING

	Abolito Lighting Division. Advance Transformer Company. 3rd (Acrelia Corporation. Air Devices, Inc. Air Bevices, Inc. Air Bevices, Inc. Alterne Stone Corp Alten Ceoler and Vontilister, Inc. Allied Chemical and Dye Corp. Alow, A. S. Company. Alumitine Corporation. American Air Filter Company, Inc. 250 American Brower Division. American Bress Company. American District Telegraph Co. American District Telegraph Co. American Salterift Corporation. American Sealing Company. American Sealing Company. American Seel & Wire Division. American Steel & Wire Division. American Welding & Mfg. Company. American Welding Corp. of America. Architectural Record. 326 Armstrong Cork Company. 25-246	
	Abelite Lighting Division	46
	Aerofin Corneration	144
	Air Devices, Inc	358
A-IC-LC	Alberone Stone Corn	358
A-IC	Allen Cooler and Ventilator, Inc	150
A-IC-LC	Allied Chemical and Dye Corp	240
A	Alumiline Corporation	280
	American Air Filter Company, Inc250	-251
A-IC	American Blower Division	42
A-10	American District Telegraph Co	69
	American Iron and Steel Institute	110
AJC	American Significant Corporation	260
A-IC	American Standard	42
	American Steel & Wire Division7	4-75
A-LC	American Welding & Mrg. Company	330
	Amplex Cerporation	368
A	Anemostat Corp. of America	239
A-IC-LC	Armstrong Cork Company25-246	-247
A-IC-LC	Berrett Division	240
A	Basic Incorporated16	A-B
A-IC	Benjamin Electric Mfg. Co	115
A-IC	Bethishen Steel Company	-329
	Bituminous Coal Institute	309
AA	Blake Division	149
A-IC	Bradley Washfountain Company	348
A-LC	Briggs Manufacturing Co	64
A-LC	Bruce, E. L. Company	370
A	Brunswick-Balke-Collender Co112	-113
A-IC-LC	Bulldog Electric Products Co	53
A.IC	Burgess Manning Company354	352
A-IC	Butler Manufacturing Company	351
A-IC	Barrett Division. Basic Incorporated. Bonjamin Electric Mfg. Co. Bonjamin Electric Mfg. Co. Besser Company. Berhishem Steel Company. Bilden Division. Berden Metel Preducts Co. Berden West Preducts Co. Berden West Preducts Co. Brungs Manufacturing Co. Bruning, Charles Company. Bruning, Charles Company. Bruning, Charles Company. Bruning Cheric Products Co. Burgess Manning Company. 354 Burl Manufacturing Company. Burl Manufacturing Company. Burles Manufacturing Company. Burles Manufacturing Company. Byers, A. M. Company.	4
A-LC	California Redwood Asso	103
A-IC	Caternillar Tractor Co	57
A-IC-LC	Codar Rapids Block Co	144
A-IC	Colotex Corporation	37
A-IC-LC	Cinca Carporation	44
	Committee on Steel Pipe Research	110
A-IC	Concrete Reinfercing Steel Ins	60
A	Couch Company S. H. Jac	332
A	Crawford Door Company	273
A-IC-LC	Cupples Products Corporation	83
Â	Contin Man Company 254	244
		-257
A	Cutier Meil Chute Company	-257 370
A	Celifornia Redwood Asso Carter—Waters Carp Caterpillar Tractor Co Cader Rapids Block Co Cololox Corporation. Chrysler Corporation. Clipco Corporation. Clipco Corporation. Connelled on Steel Pipe Research. Concrete Reinforcing Steel Ins Cennor Lumber and Land Co Couche Company, S. H., Inc Crewford Doer Company. Cupples Products Corporation. Curris Lighting, Inc Curris Mfg. Company. 256 Cutier Meil Chule Company.	-257 370
A 15	Cutier Meil Chute Company Deluxe Metal Furniture Co	-257 370 364
A-LC	Cutter Meil Chute Company. Deluxe Metal Furniture Co	364 56 344
A-LC	Culter Mell Chuse Company. Deluxe Metal Furniture Co Devee & Reynolds Company, Inc Dodge Socks	364 56 344 301
A-IC-IC	Cutter Meil Chute Company. Deluxe Metal Furniture Co. Deves & Reynolds Company, Inc. Dodge Books	364 56 344 -301 0-91
W-IC-TC W-IC-TC W-IC-TC W-IC-TC	Cutter Meil Chute Company. Deluxe Metal Furniture Co. Devee & Reynelds Company, Inc. Dodge Books330–334–338–340 Douglas Fir Plywood298–299 Dew Chemical Company89–9 DuKane Corporation.	364 56 344 -301 0-91 348 144
V-IC-TC V-IC-TC V-IC-TC V-IC	Deluxe Metal Furniture Co. Devce & Reynolds Cempany, Inc. Dodge Bocks:	364 56 -344 -301 0-91 348 144
V-IC-TC V-IC-TC V-IC-TC V-IC	Deluxe Metal Furniture Co. Devce & Reynolds Cempany, Inc. Dodge Bocks:	364 56 -344 -301 0-91 348 144
V-IC-TC V-IC-TC V-IC-TC V-IC	Deluxe Metal Furniture Co. Devce & Reynolds Cempany, Inc. Dodge Bocks:	364 56 -344 -301 0-91 348 144
V-IC-TC V-IC-TC V-IC-TC V-IC	Deluxe Metal Furniture Co. Devce & Reynolds Cempany, Inc. Dodge Bocks:	364 56 -344 -301 0-91 348 144
V-IC-TC V-IC-TC V-IC-TC V-IC	Deluxe Metal Furniture Co. Devce & Reynolds Cempany, Inc. Dodge Bocks:	364 56 -344 -301 0-91 348 144
A-IC A-IC-IC A-IC-IC A-IC-IC	Deluxe Metal Furniture Co. Devoe & Reynolds Cempany, Inc Dodge Books	364 56 -344 -301 0-91 348 144 131 367 153 328 336
A-IC A-IC-IC A-IC-IC A-IC-IC	Deluxe Metal Furniture Co. Devoe & Reynolds Cempany, Inc Dodge Books	364 56 -344 -301 0-91 348 144 131 367 153 328 336
A-IC A-IC-IC A-IC-IC A-IC-IC	Deluxe Metal Furniture Co. Devoe & Reynolds Cempany, Inc Dodge Books	364 56 -344 -301 0-91 348 144 131 367 153 328 336
A-IC A-IC-IC A-IC-IC A-IC-IC	Deluxe Metal Furniture Co. Devoe & Reynolds Cempany, Inc Dodge Books	364 56 -344 -301 0-91 348 144 131 367 153 328 336
A-IC A-IC-IC A-IC-IC A-IC-IC	Deluxe Metal Furniture Co. Devoe & Reynolds Cempany, Inc Dodge Books	364 56 -344 -301 0-91 348 144 131 367 153 328 336
A-IC A-IC-IC A-IC-IC A-IC-IC	Deluxe Metal Furniture Co. Devoe & Reynolds Cempany, Inc Dodge Books	364 56 -344 -301 0-91 348 144 131 367 153 328 336
A-IC A-IC-IC A-IC-IC A-IC-IC A-IC-IC	Deluxe Metal Furniture Co. Devos & Reynolds Company, Inc. Devos & Reynolds Company, Inc. Dodge Books. 330–334–338–340 Douglas Fir Pjuvodd. 298–299 DuKane Corporation. Bour Chewold Div. Esgle Pancil Company. Esgle Pancil Company. Ebco Manufacturing Co. Esclero Metaloliurgical Co. Div. Ellison Brenze Co. Esguipment Menufacturing Co., Inc. Facing Tile Institute. Facing Tile Institute. Facinents, Morse. Fairbanks, Rose. Fairbanks, Roller Company. Inc.	364 56 -344 -301 0-91 348 144 131 136 153 328 336 336 336 35 362 308 43 137 129 356
A-IC A-IC-IC A-IC-IC A-IC-IC A-IC-IC	Deluxe Metal Furniture Co. Devos & Reynolds Company, Inc. Devos & Reynolds Company, Inc. Dodge Books. 330–334–338–340 Douglas Fir Pjuvodd. 298–299 DuKane Corporation. Bour Chewold Div. Esgle Pancil Company. Esgle Pancil Company. Ebco Manufacturing Co. Esclero Metaloliurgical Co. Div. Ellison Brenze Co. Esguipment Menufacturing Co., Inc. Facing Tile Institute. Facing Tile Institute. Facinents, Morse. Fairbanks, Rose. Fairbanks, Roller Company. Inc.	364 56 -344 -301 0-91 348 144 131 136 153 328 336 336 336 35 362 308 43 137 129 356
A-IC A-IC-IC A-IC-IC A-IC-IC A-IC-IC	Deluxe Metal Furniture Co. Devos & Reynolds Company, Inc. Devos & Reynolds Company, Inc. Dodge Books. 330–334–338–340 Douglas Fir Pjuvodd. 298–299 DuKane Corporation. Bour Chewold Div. Esgle Pancil Company. Esgle Pancil Company. Ebco Manufacturing Co. Esclero Metaloliurgical Co. Div. Ellison Brenze Co. Esguipment Menufacturing Co., Inc. Facing Tile Institute. Facing Tile Institute. Facinents, Morse. Fairbanks, Rose. Fairbanks, Roller Company. Inc.	364 56 -344 -301 0-91 348 144 131 136 153 328 336 336 336 35 362 308 43 137 129 356
A-IC A-IC-IC A-IC-IC A-IC-IC A-IC-IC	Deluxe Metal Furniture Co. Devos & Reynolds Company, Inc. Devos & Reynolds Company, Inc. Dodge Books. 330–334–338–340 Douglas Fir Pjuvodd. 298–299 DuKane Corporation. Bour Chewold Div. Esgle Pancil Company. Esgle Pancil Company. Ebco Manufacturing Co. Esclero Metaloliurgical Co. Div. Ellison Brenze Co. Esguipment Menufacturing Co., Inc. Facing Tile Institute. Facing Tile Institute. Facinents, Morse. Fairbanks, Rose. Fairbanks, Roller Company. Inc.	364 56 -344 -301 0-91 348 144 131 136 153 328 336 336 336 35 362 308 43 137 129 356
A-IC A-IC-IC A-IC-IC A-IC-IC A-IC-IC	Deluxe Metal Furniture Co. Devoe & Reynolds Cempany, Inc Dodge Books	364 56 -344 -301 0-91 348 144 131 136 153 328 336 336 336 35 362 308 43 137 129 356
A-LC A-IC-LC A-IC-LC A-IC-LC A-IC-LC A-IC-LC A-IC-LC A-IC-LC	Deluxe Metal Furniture Co. Devee & Reynolds Cempany, Inc. Devee & Reynolds Cempany, Inc. Dodge Books. 330-334-338-340 Douglas Fir Plywood. 298-299- DuKane Cerporalion. Dur-O-wel Div. Eagle Pencil Company. Beca Manufacturing Co. Electre Metallorgical Co. Div. Ellilean Brans Co. Equipment Manufacturing Co., Inc. Fecing Tile Institute. Feirbonks, Morse. Feirbonks, Morse. Feirbonks, Morse. Feirbonks, Morse. Federal Seaboard Terra Cotto Carp. Fenstre Incorporated. 134 to Flet Metal Mfg. Company. Fletd Cantrol Div., H. B. Conkey. Filtzgibbons Boiler Company, Inc. Fleet of America, Inc. Fleet of Penarica, Inc. Fleet of America, Inc. Fleet of Penarica, Inc. Fleet of Penarica, Inc. Fleet of America, Inc. Service Manufacturing Co. 208 Beautica Inc.	364 56 -348 144 131 367 338 336 336 35 362 308 43 137 129 356 296 296 296 215 215 215 215 215 215 215 215 215 215
A-LC A-IC-LC A-IC-LC A-IC-LC A-IC-LC A-IC-LC A-IC-LC A-IC-LC	Deluxe Metal Furniture Co. Devee & Reynolds Cempany, Inc. Devee & Reynolds Cempany, Inc. Dodge Books. 330-334-338-340 Douglas Fir Plywood. 298-299- DuKane Cerporalion. Dur-O-wel Div. Eagle Pencil Company. Beca Manufacturing Co. Electre Metallorgical Co. Div. Ellilean Brans Co. Equipment Manufacturing Co., Inc. Fecing Tile Institute. Feirbonks, Morse. Feirbonks, Morse. Feirbonks, Morse. Feirbonks, Morse. Federal Seaboard Terra Cotto Carp. Fenstre Incorporated. 134 to Flet Metal Mfg. Company. Fletd Cantrol Div., H. B. Conkey. Filtzgibbons Boiler Company, Inc. Fleet of America, Inc. Fleet of Penarica, Inc. Fleet of America, Inc. Fleet of Penarica, Inc. Fleet of Penarica, Inc. Fleet of America, Inc. Service Manufacturing Co. 208 Beautica Inc.	364 56 -348 144 131 367 338 336 336 35 362 308 43 137 129 356 296 296 296 215 215 215 215 215 215 215 215 215 215
A-LC A-IC-LC A-IC-LC A-IC-LC A-IC-LC A-IC-LC A-IC-LC A-IC-LC	Deluxe Metal Furniture Co. Devee & Reynolds Cempany, Inc. Devee & Reynolds Cempany, Inc. Dodge Books. 330-334-338-340 Douglas Fir Plywood. 298-299- DuKane Cerporalion. Dur-O-wel Div. Eagle Pencil Company. Beca Manufacturing Co. Electre Metallorgical Co. Div. Ellilean Brans Co. Equipment Manufacturing Co., Inc. Fecing Tile Institute. Feirbonks, Morse. Feirbonks, Morse. Feirbonks, Morse. Feirbonks, Morse. Federal Seaboard Terra Cotto Carp. Fenstre Incorporated. 134 to Flet Metal Mfg. Company. Fletd Cantrol Div., H. B. Conkey. Filtzgibbons Boiler Company, Inc. Fleet of America, Inc. Fleet of Penarica, Inc. Fleet of America, Inc. Fleet of Penarica, Inc. Fleet of Penarica, Inc. Fleet of America, Inc. Service Manufacturing Co. 208 Beautica Inc.	364 56 -348 144 131 367 338 336 336 35 362 308 43 137 129 356 296 296 296 215 215 215 215 215 215 215 215 215 215
A-LC A-IC-LC A-IC-LC A-IC-LC A-IC-LC A-IC-LC A-IC-LC A-IC-LC	Deluxe Metal Furniture Co. Devee & Reynolds Cempany, Inc. Devee & Reynolds Cempany, Inc. Dodge Books. 330-334-338-340 Douglas Fir Plywood. 298-299- DuKane Cerporalion. Dur-O-wel Div. Eagle Pencil Company. Beca Manufacturing Co. Electre Metallorgical Co. Div. Ellilean Brans Co. Equipment Manufacturing Co., Inc. Fecing Tile Institute. Feirbonks, Morse. Feirbonks, Morse. Feirbonks, Morse. Feirbonks, Morse. Federal Seaboard Terra Cotto Carp. Fenstre Incorporated. 134 to Flet Metal Mfg. Company. Fletd Cantrol Div., H. B. Conkey. Filtzgibbons Boiler Company, Inc. Fleet of America, Inc. Fleet of Penarica, Inc. Fleet of America, Inc. Fleet of Penarica, Inc. Fleet of Penarica, Inc. Fleet of America, Inc. Service Manufacturing Co. 208 Beautica Inc.	364 56 -348 144 131 367 338 336 336 35 362 308 43 137 129 356 296 296 296 215 215 215 215 215 215 215 215 215 215
A-LC A-IC-LC A-IC-LC A-IC-LC A-IC-LC A-IC-LC A-IC-LC A-IC-LC	Deluxe Metal Furniture Co. Devee & Reynolds Cempany, Inc. Devee & Reynolds Cempany, Inc. Dodge Books. 330-334-338-340 Douglas Fir Plywood. 298-299- DuKane Cerporalion. Dur-O-wel Div. Eagle Pencil Company. Beca Manufacturing Co. Electre Metallorgical Co. Div. Ellilean Brans Co. Equipment Manufacturing Co., Inc. Fecing Tile Institute. Feirbonks, Morse. Feirbonks, Morse. Feirbonks, Morse. Feirbonks, Morse. Federal Seaboard Terra Cotto Carp. Fenstre Incorporated. 134 to Flet Metal Mfg. Company. Fletd Cantrol Div., H. B. Conkey. Filtzgibbons Boiler Company, Inc. Fleet of America, Inc. Fleet of Penarica, Inc. Fleet of America, Inc. Fleet of Penarica, Inc. Fleet of Penarica, Inc. Fleet of America, Inc. Service Manufacturing Co. 208 Beautica Inc.	364 56 -348 144 131 367 338 336 336 35 362 308 43 137 129 356 296 296 296 215 215 215 215 215 215 215 215 215 215
A-LC A-IC-LC A-IC-LC A-IC-LC A-IC-LC A-IC-LC A-IC-LC A-IC-LC	Deluxe Metal Furniture Co. Devee & Reynolds Cempany, Inc. Devee & Reynolds Cempany, Inc. Dodge Books. 330-334-338-340 Douglas Fir Plywood. 298-299- DuKane Cerporalion. Dur-O-wel Div. Eagle Pencil Company. Beca Manufacturing Co. Electre Metallorgical Co. Div. Ellilean Brans Co. Equipment Manufacturing Co., Inc. Fecing Tile Institute. Feirbonks, Morse. Feirbonks, Morse. Feirbonks, Morse. Feirbonks, Morse. Federal Seaboard Terra Cotto Carp. Fenstre Incorporated. 134 to Flet Metal Mfg. Company. Fletd Cantrol Div., H. B. Conkey. Filtzgibbons Boiler Company, Inc. Fleet of America, Inc. Fleet of Penarica, Inc. Fleet of America, Inc. Fleet of Penarica, Inc. Fleet of Penarica, Inc. Fleet of America, Inc. Service Manufacturing Co. 208 Beautica Inc.	364 56 -348 144 131 367 338 336 336 35 362 308 43 137 129 356 296 296 296 215 215 215 215 215 215 215 215 215 215
A-IC A A A A A A A A A C A C A	Deluxe Metal Furniture Co. Devoe & Reynolds Cempany, Inc. Devoe & Reynolds Cempany, Inc. Dodge Books	364 56 56 344 -301 348 144 131 367 153 328 336 336 2308 43 35 296 225 226 246 259 317 150 347 88 89 59 315 348 348 348 348 348 348 348 348 348 348
A-IC A A A A A A A A A C A C A	Deluxe Metal Furniture Co. Devoe & Reynolds Cempany, Inc. Devoe & Reynolds Cempany, Inc. Dodge Books	364 56 56 344 -301 348 144 131 367 153 328 336 336 2308 43 35 296 225 226 246 259 317 150 347 88 89 59 315 348 348 348 348 348 348 348 348 348 348
A-IC A A A A A A A A A C A C A	Deluxe Metal Furniture Co. Devoe & Reynolds Cempany, Inc. Devoe & Reynolds Cempany, Inc. Dodge Books	364 56 56 344 -301 348 144 131 367 153 328 336 336 2308 43 35 296 225 226 246 259 317 150 347 88 89 59 315 348 348 348 348 348 348 348 348 348 348
A-IC A A A A A A A A A C A C A	Deluxe Metal Furniture Co. Devoe & Reynolds Cempany, Inc. Devoe & Reynolds Cempany, Inc. Dodge Books	364 56 56 344 -301 348 144 131 367 153 328 336 336 2308 43 35 296 225 226 246 259 317 150 347 88 89 59 315 348 348 348 348 348 348 348 348 348 348
A-IC A A A A A A A A A C A C A	Deluxe Metal Furniture Co. Devoe & Reynolds Cempany, Inc. Devoe & Reynolds Cempany, Inc. Dodge Books	364 56 56 344 -301 348 144 131 367 153 328 336 336 2308 43 35 296 225 226 246 259 317 150 347 88 89 59 315 348 348 348 348 348 348 348 348 348 348
A-IC A A A A A A A A A C A C A	Deluxe Metal Furniture Co. Devoe & Reynolds Cempany, Inc. Devoe & Reynolds Cempany, Inc. Dodge Books	364 56 56 344 -301 348 144 131 367 153 328 336 336 2308 43 35 296 225 226 246 259 317 150 347 88 89 59 315 348 348 348 348 348 348 348 348 348 348
A-IC A A A A A A A A A C A C A	Deluxe Metal Furniture Co. Devoe & Reynolds Cempany, Inc. Devoe & Reynolds Cempany, Inc. Dodge Books	364 56 56 344 -301 348 144 131 367 153 328 336 336 2308 43 35 296 225 226 246 259 317 150 347 88 89 59 315 348 348 348 348 348 348 348 348 348 348
A-IC A A A A A A A A A C A C A	Deluxe Metal Furniture Co. Devoe à Reynolds Cempany, Inc. Devoe à Reynolds Cempany, Inc. Dodge Bocks	364 56 56 344 -301 348 144 131 367 153 328 336 336 2308 43 35 296 225 226 246 259 317 150 347 88 89 59 315 348 348 348 348 348 348 348 348 348 348

A Heerlel, W. J. & Co	MANUFACTURERS' PRE-FILED CATALOGS
Hager, C. & Sons Hinge Mfg. Co 99	Catalogs of the firms listed below are available in th
A Hamilton Mfg. Co	1957 Sweet's Catalog Files as follows: (A) Architectural File (green), (IC) Industrial Construction File (blue), (LC) Light Construction File (yellow
Hart & Cooley Manufacturing Company 65	(A) Architectural File (green), (IC) Industrial Construc
A-IC Hauserman, E. F. Company	tion rise (side), (LC) Light Continuents rise (yellow
A-IC Haven-Busch Company 342	4 14 But 1 B
A Haws Drinking Faucet Company 48	A-LC Pittsburgh Plate Glass Co270-27 A Pittsburgh Plate Glass Co., Paint Div
A-IC Heave briming reducts, inc. 94 A Hoffman Specialty Mfg. Corp. 149 A Holomb & Hoke Mfg. Co., inc. 252 Holophane Company, Inc. 277	A Pomeroy, S. H. Company
A Holcomb & Hoke Mfg. Co., Inc., 252	A Portland Cement Assoc
Holophane Company, Inc	Power-Strut Inc
A-LC Homesele Company	A Powers Regulator Co
A Horn, A. C. Companies80-81	A Prett & Lambert Co., Inc
A Hern, A. C. Companies	A Fyle-Hallonal Company
Hotel Pittsburgher 347 A Hough Menufacturing Corporation254-235 A Hunilington Laboratories, Inc. 68 A Hussey Menufacturing Co., Inc. 338	0111 01 1 1 1 1 1 1
A Huntington Laboratories, Inc	RLM Standards Institute
A Hussey Manufacturing Co., Inc 358	Rain Jet Corp
	Remington Arms Company, Inc 27
A-IC Imperial Brass Mfg. Co 2-3	A-LC Republic Steel Corp282-28
Infra Insplation, Inc	Remington Arms Company, Inc. 27 A-LC Republic Steel Corp. 282-28 A-IC-LC Revere Copper & Brass, Inc. 120-12 A-IC-LC Reynolds Metals Co. 12
A Inland Manufacturing Division 17	A-IC-LC Reynolds Metals Co
A-IC-LC Inland Steel Products Company 376 International Nickel Company, Inc 34	A-IC Ric-wil Incorporated
A-LC Iron Firemen Mfg. Co 285	A Rigidized Metals Corp
	A Bireau Oreau C Commence
Jackson & Church Co., Furnace Div 142	A-IC Robbins Flooring Company 31
A Jamison Cold Storage Door Co 126	A-IC Robertson, H. H. Company
A Jamison Cold Storage Door Co	Roshling's John A Sons Corp. 13
A Jenn Air Products Company, Inc 307	A-IC Robbins Flooring Company. 31 A-IC Robertson, H. H. Company. 31 A-IC Robertson, W. H. Company. 4 A-IC Roddis Plywood Corp. 3 Roebling's, John A. Sons Corp. 13 A Robm & Heas Company. 100–10
A-IC Johns-Manville	A Rowe Manufacturing Company 32
Johnson-Service Company	Rust-Sele Company 36
A-IC Josem Manufacturing Company 371	
	A St. Charles Manufacturing Co 10
A Kowaner Co. 44-47	Sarco Company, Inc
A Kuwneer Co	
	A Sargent & Greenteat, Inc
A-LC Keystone Steel & Wire Co. 294–295 Keystone Steel & Wire Co. 366 Keypers Company, Inc., Metal Products Distriction	Surgent & Genelleri, Inc. 30
A-LC Keystone Steel & Wire Co294-295	A-IC Slean Valve Co4th Cove
Kenter Company to Matel Products	A Smithcraft Lighting266-26
Division 281	
A Koppers Company, Inc., Tar Products	Sparta Ceramic Company
A Koppers Company, Inc., Tar Products Division	Sperti-Faraday, Inc
A LCN Closers, Inc	A Standard Products Co
A-IC Lemlar Manufacturing Co	A -tC Standard Conveyor Company. 32. A Standard Products Co. 6. A -tC Stran-Steel Cerporerion. 29. A Surmitiville Tiles, inc. 30. A -tC Sunbsam Lighting Company. 106-10. A -tC Sunbsam Lighting Company. 106-10.
A-IC-LC Libbey-Owens-Ferd Glass Coapp. 68	A Summitville Tiles, Inc
Lighting Products, Inc	A Sun Chemical Corporation80-8
A Lime Register Company	A Sunrec Corporation 27
Lincoln Electric Company	Superior Electric Company. 14 A Surface Combustion Corporation. 18-1 A-IC Swartwout Company. 36 Sylvania Electric Products, Inc. 33
A Lockwood Hardware Mfg. Co 306	A Surface Combustion Corporation 18-1
Lone Star Cement Corporation 7	A-IC Swartwout Company
A-LC Lowell Manufacturing Co 84	Sylvania Electric Products, Inc
A-IC Mecomber, Inc. 363 Maguire, Welter Co., Inc. 350 A-IC Mehen, R. C. Company 73-146-147-155 Manning, R. A. Ce. 370 A-IC Marille Division of Mosonile Corp. 365	A-IC Tectum Corporation
Maguire, Walter Co., Inc	A Times Products Division 14.4
A-IC Mahon, R. C. Company73-140-147-155	A Tile Council of America, Inc
A-LC Marite Division of Masonite Corp 365	A-LC Timber Engineering Co
A-IC-LC Masonite Corporation	A-IC Timber Structures, Inc
McDoneld, A. Y. Mfg. Co	
A Medert, Fred Products, Inc 79	Union Carbide Corporation
A Meder, Fred Products, Inc	Union Carbide Corporation
A Minnerpolis-Honorwell 20	A-LC United States Plywood Corp
A-IC-LC Mississippi Glass Company	A-IC United States Steel Corp. Subsidiaries 70-71
A-IC Modine Manufacturing Co278-279	74-75-95-36 United States Steel-Stainless70-7
A Montgomery Elevator Company 154	A Universal Atlas Coment Company 9
A Montgomery Eleverier Company	A-LC Universal-Rundle Corporation
A-LC Mostey Electronics, Inc	•
	A Vogel-Peterson Co
National Coal Association 309	A Vogel-Petersen Co
A-IC National Concrete Masonry Association	A Vonnegut Hardware Co
A.IC.IC National Gypsum Company 114	A Vonnegut Hardware Co
A-IC-LC National Gypsum Company	
A National Terrazzo & Mosaic Assn., inc 300	A Wesco Products, Inc
IC National Tube Division	Weatherstrip Research Institute 11
Nelson, Herman Products250-251	Wohster Warren & Co 911
A Neo-Ray Products, Inc	Weirton Steel Company. 25. A Weis, Henry Mfg. Co., Inc. 9.
A Nesbitt, John J., Inc	A Weis, Henry Mfg. Co., Inc
Norma Pancil Corp	tws
A Norman Products Co	A Wastinghouse Flavotor-Flactric Stainway 23:
A Norten Door Closer Company 132	A Westinghouse Electric Corp.—Micarta 26
	Westinghouse Electric Corp.—Refrigerg-
A-LC Onon, D. W. & Sons, Inc	Hon
A-IC-LC Overhead Door Corporation96-97	Weyerhoeuser Sales Company
A Overly Manufacturing Co 109	A-IC Wheeling Corrugating Company 86–8 Wheeleck Signels 34
A Ozelid Division 49	A-LC Whixxer Industries, Inc
	A-IC Wing, L. J. Mfg. Co
A-LC Poss & Seymour, Inc	A-LC Woodall Industries, Inc
A-IC Peerless Electric Company	
A Penn Metal Co., Inc	A-LC Yale & Towne Mfg. Co310-31
LC Perma Products Company 40	
Phillips Drill Company	A-IC-LC Zenelite Company290-29

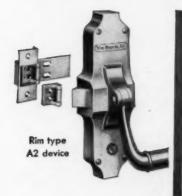
NEW YORK—H. Judd Payne, Publishing Director; Robert F. Marshall, General Manager; Tom Tredwell, Advertising Mgr.; Blake Hughes, Promotion and Research Mgr.; Bicherd C. Crabtree, Sales Service Mgr.; Benton B. Orwig, Director of New Business Development; M. A. Murphy, Advertising Production Mgr.; Harry M. Horn, Jr.; James E. Boddorf, 119 W. 40 St.; BOSTON—Harry M. Horn, Jr.; James E. Boddorf, 119 W. 40 St.; BOSTON—Harry M. Horn, Jr.; James B. Boddorf, 179 W. 40 St.; BOSTON—Harry M. Horn, Jr.; James A. Anderson, Charles I. Reed, Jr., 700 Merchandte Mart; CLEVELAND—John C. Jackson, Regional Sales Mgr.; Joseph F. Folmer, Jous F. Kutscher, 321 Hanna Bidg.; LOS ANGELES—Bob Wetstele, 672 South Lafayette Park Place: MIAMI—Benton B. Orwig, 802 N. W. First St.; PHILADELPHA—Tom Tredwell, James E. Boddorf, 1321 Arch St.; PORILAND—Bob Wettstele, 723 S. Washington St.; ST. LOUIS—Claude B. Riemersma, 721 Olive St.; SAN FRANCISCO—Bob Wettstele, 1997 S. Washington St.; ST. LOUIS—Claude B. Riemersma, 721 Olive St.; SAN FRANCISCO—Bob Wettstele, 1997 S. Washington St.; ST. LOUIS—Claude B. Riemersma, 721 Olive St.; SAN FRANCISCO—Bob Wettstele, 1997 S. Wetshington St.; ST. LOUIS—Claude B. Riemersma, 721 Olive St.; SAN FRANCISCO—Bob Wettstele, 1997 S. Wetshington St.; ST. LOUIS—Claude B. Riemersma, 721 Olive St.; SAN FRANCISCO—Bob Wettstele, 1997 S. Wetshington St.; ST. LOUIS—Claude B. Riemersma, 721 Olive St.; SAN FRANCISCO—Bob Wettstele, 1997 S. Wetshington St.; ST. LOUIS—Claude B. Riemersma, 721 Olive St.; SAN FRANCISCO—Bob Wettstele, 1997 S. Wetshington St.; ST. LOUIS—Claude B. Riemersma, 721 Olive St.; SAN FRANCISCO—Bob Wettstele, 1997 S. Wetshington St.; ST. LOUIS—Claude B. Riemersma, 721 Olive St.; SAN FRANCISCO—Bob Wettstele, 1997 S. Wetshington St.; ST. LOUIS—Claude B. Riemersma, 721 Olive St.; SAN FRANCISCO—Bob Wettstele, 1997 S. Wetshington St.; ST. LOUIS—Claude B. Riemersma, 721 Olive St.; SAN FRANCISCO—Bob Wettstele, 1997 S. Wetshington St.; ST. LOUIS—Claude B. Riemersma, 721 Olive St.; SAN FRANCISCO—Bob Wettstele, 1997 S

Von Duprin

FIRE AND
PANIC EXIT DEVICES



Precise...Proved...Preferred



• Built to last, designed to absorb punishment, Von Duprin Exit Devices handle the heaviest traffic any building can offer. There's efficiency at your door with Von Duprin on the job.

Whether seldom used or in constant service, these are the devices for effortless safety, even in the panic of that once-in-a-lifetime emergency. Many Von Duprin devices are still providing this service after 40 exacting years of use, with only normal maintenance. Architects, builders, building superintendents—the men who know—insist on Von Duprin, exit devices that always stand ready . . . for "the safe way out."

VONNEGUT HARDWARE CO. - VON DURPIN DIVISION - INDIANAPOLIS 9, INDIANA

Short-span concrete slabs

COST LESS

-with new

Milcor Ribform

Save construction dollars with high-tensile steel Ribform, as permanent centering for concrete on spans up to five feet:

Goes down fast. One man easily handles a sheet. It is quickly and inexpensively placed and welded to joists.

Needs no temporary bracing of joists. Ribform is a rigid type of centering; it exerts no side-pull on the joists.

Eliminates scaffolding. Once down, Ribform becomes a safe, non-flexible working platform for all trades.

Uses as much as 20% less concrete than flexible types of centering.

Slab is poured and finished in one operation. The rigidity of Ribform permits monolithic finishing — eliminates costly topping.

Easy to install over pipe trenches or other inaccessible locations where it is impractical and expensive to strip wood forms.

Write for Milcor Catalog No. 245,

MILCOR® RIBFORM

or refer to Sweet's - Section 2F/In.



KANSAS CITY . LOS ANGELES . MILWAUKEE . MINNEAPOLIS . NEW ORLEANS . NEW YORK . ST. LOUIS.

...the new

ADVAN

ADDS YEARS TO BALLAST LIFE

guard

the first major development in Ballast design since the introduction of the fluorescent lamp

ADVAN-guard, an integral part of the new Advance Ballast design, adds years to ballast life by preventing ballast operation at abnormal temperatures. ADVAN-guard protects against excessive voltage supply . . . internal ballast short circuiting . . . inadequate lamp maintenance . . . improper fixture application . . . and eliminates the need for individual fixture fusing.

ADVAN-guard is pre-set to instantly and automatically "trip-out" when the ballast is operating at higher than recommended temperatures. When heat decreases to normal temperature ADVAN-guard resets automatically and the ballast resumes operation. If overheating continues . . . ADVAN-guard protection continues. ADVAN-guard, by maintaining normal operating temperatures, increases the life of a fluorescent lamp ballast.

For longer ballast life insist on Advance quality fluorescent lamp ballasts with ADVAN-guard protection.

Incorporating a thermally actuated protective device that gives longer ballast life

ADVAN-guard is listed by Underwriter's Laboratories, Inc.

ADVANCE

TRANSFORMER CO.

The Heart of the Lighting Industry



THE VAST MAJORITY OF THE NATION'S FINE BUILDINGS ARE SLOAN EQUIPPED



NEWEST STAR in the **SHERATON GALAXY**

• In Philadelphia this 1000-room, \$16-million hotel is the 46th in the far-flung Sheraton galaxy, and the first to be erected by this famed chain in its 20-year history. This new Sheraton star is distinguished by a handsome exterior that heralds the functional beauty and air-conditioned comfort to be enjoyed inside. The spacious lobby is faced with golden-veined white Italian marble and Venetian mosaics. On the floor above is the superb Grand Ballroom; also the elegant main dining room, Town Room restaurant and smart

cocktail lounge. On the third floor is the ballroom balcony and the uniquely decorated function rooms. All guest rooms have a wall-of-glass window over-looking the city. Many rooms are studio type, convertible into sleeping rooms at night. On the top floor are luxurious Executive Suites with private outdoor terraces. A 1000-car garage is accessible from the lower concourse. As are thousands of other expertly planned buildings, the new Sheraton is fully equipped with SLOAN Flush VALVES.



FAMOUS FOR EFFICIENCY, DURABILITY, ECONOMY

SLOAN VALVE COMPANY . CHICAGO . ILLINOIS .

Another achievement in efficiency, endurance and economy is the SLOAN Act-O-Matic SHOWER HEAD, which is automatically self-cleaning each time it is used! No clogging. No dripping. Architects specify, and Wholesalers and Master Plumbers recommend the Act-O-Matic—the better shower head for better bathing.

Write for completely descriptive folder

